The Builder.

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Design for a House.....By Mr. R. A. Briggs, F.R.I.B.A.
"Framewood": the Entrance Front.....Mr. Gerald C. Horsley, Architect.
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The Institute Elections.

THE question of Registration is again being made use of as the excuse for an attempt to induce those who are filling in their balloting lists for the election of Council and Officers of the Institute of Architects for the ensuing session, to use the opportunity for voting against nearly all the men who would represent the highest class of architects on the Council, and filling up its ranks with inferior men to be voted for on the sole ground that they are pledged to support Registration.

It seems strange that the advocates of this move in the game should not even perceive that they are thereby formulating the most obvious and emphatic condemnation of their own cause. One of the cries that has been heard is that Registration is to raise and fortify the dignity of the profession, and here are the supporters of it showing their anxiety to raise the dignity of the profession by inviting all their adherents to combine in voting out the leading men of the day, and filling up the Council of the Institute by mediocrities whose claim to election is that they are all pledged to a particular policy, and that one to which the leading men of the profession, both within and without the Institute, are opposed. There could hardly have been a more cynical confession of the weakness of their own cause.

We publish two replies this week to our "Note" on Mr. Middleton's letter of last week, both of them from good men, who express themselves in a moderate and dignified manner. But when Mr. Gibbs tells us that Mr. Middleton's argument, that Registration would raise the standard of professional education, is by no means new to him and that this object has been before the supporters of Registration for a long time, we naturally ask, how is it that we have heard so little of it before? What we have mostly heard is that the profession is being robbed by jerry architects. That has always been the prominent cry, and it seems to us that this idea of the improvement of education by means of Registration has been rather suddenly emphasised at the last moment. The letters that we have printed are, we admit, reasonable and sensible letters worth every consideration; but if our readers could have seen one or two of the letters we do *not* print, he would see that such letters form rather a significant indication as to one kind of architect to whom the Registration gospel appears specially to appeal.

Our conviction in regard to Registration—to sum it up again briefly, is—that it is not wanted; that the other countries in which architecture is at present in the most healthy condition and architects most honoured—viz., France, America, and Germany—have not thought necessary to adopt it; that, if architecture is both a science and an art, yet neither engineers on the one side, nor sculptors and painters on the other side, have thought any such movement necessary to protect their interests; and that the immediate result of such a measure would unquestionably be to lower the status of the profession by confirming in the rank of architect the very kind of men whom the upholders of the movement profess the wish to muzzle. But what is perfectly certain is this, that no good can come to the architectural profession by a kind of campaigning the object of which is to prevent all the best men from being elected to the managing Council of the central professional body, and to fill it with inferior men. A movement which is to be carried on in that spirit is self-condemned on the face of it, and such tactics are, in the long run, useless in any case to those who employ them. If this question of Registration is to be settled one way or another, the wire-pullers, as we may call them, may rest assured that it will not be settled apart from the will and the support of the leading men of the profession. No good, therefore, can be done, from any point of view, by adopting the selfish and narrow policy advocated in this case by the Registrationists; and we hope that all those who have not yet filled up their balloting lists will recognise that the honour and dignity of the Institute Council are the first consideration, and will follow the suggestion in the last paragraph of Mr. Cole Adams's letter (page 517), and record their votes accordingly.

ARCHITECTURE AT THE PARIS SALON.

THE architectural gallery at the Old Salon is not as interesting as usual this year. The principal exhibit is, as usual, an "envoi de Rome," but in this case it is not, as usual, a restoration of a great Greek or Roman monument (like that of the Island of the Tiber last year), but merely an "Étude sur l'habitation antique," consisting of the restoration of a Pompeian house, and an imaginary plan of a Roman villa of the time of the Cæsars. The fact is, no doubt, that the great classic monuments which are capable of affording studies for a grand restoration scheme are getting exhausted; hence the recent ordinance that students at the Villa Medici might, if they pleased, fall back upon Pompeii as comparatively new ground; and in this case the Pompeian Villa forms the principal element in the drawings. The author is M. Chifflot, a pupil of three very eminent French architects—M. Daumet, M. Guirault, and M. Esquié. He offers a complete set of drawings of what he entitles the "Maison de Centenaire" at Pompeii. The drawings of the existing remains consist of plans which are bordered by drawings of fragments of mosaic floor details, and sections which are accompanied by larger-scale details of portions of wall surface, with as much of their coloured decoration as can still be made out. In the elaborate restoration drawings the author appears to have turned to account all the known details of Pompeian decoration, and thrown them together into a single house. The result does not seem a very probable one, but it is not impossible, and at all events the drawings are finished regardless of labour. We observe that in the court of the atrium a wooden gallery is shown running round the court above the unlighted portion of the atrium. The set of drawings includes a number of sketches of remains of wall-paintings, bronze figures, etc., copied in water-colour with great care and precision. The wall-paintings, in their general resemblance of style and detail, give one more than ever the impression that these graceful additions were the work, not of eminent artists, but of the "decorating firms" of the day. The figures, though varying in action, are all of the same type, and when the trick was acquired, may be supposed to have been produced wholesale by the decorative artist, with little difficulty or study. The drawings, those of the bronze sculptures especially, are admirably executed, and the whole set highly creditable to their author, although, as already observed, they have not the interest of some of the splendid sets of restorations of Roman temples, etc., which we have seen in some previous Salons.

"Projets" which are only architectural dreams are even more numerous, and designs executed or commissioned even less numerous, than usual. M. Prévot is the author of two of the most noteworthy of the former class of designs. One of these is for a "Manufacture des Tapisseries des Gobelins," which may have a certain practical bearing, since the building of a new Gobelins manufactory has really been discussed. The general design of the façade, with its coupled Ionic columns in the centre and pilasters on the wings, recalls that of the Palais des Beaux-Arts; and as in the case of the latter building, this grandiose classic architecture is a good deal spoiled in its effect by the great glass roof visibly surmounting it. M. Prévot's other scheme is for "Une Académie Americaine à Paris," also a scheme which has been discussed by the Americans, but which will doubtless be carried out, if at all, by an American architect, for the American love of everything French hardly extends to robbing their own architects of a commission in favour of a Frenchman. The treatment of the main central pavilion in this design is very fine and effective; a long continuous ground story with rusticated arches supports a main story divided up by four pedimented pavilions, connected by a pilastered expanse of wall with rectangular windows. All these things sound a good deal alike in description, for the main architectural elements are always pretty much the same, but there are differences in the refinement of detail, and this one is one of the best façades in the gallery. The separate pavilions are rather ineffective in treatment, and moreover seem out of scale with the centre block. Then there is M. Ferrand's design for "Une Université Navale," standing boldly above a seacoast with immense ranges of terraces and steps up to it; and M. Ebrard's design for a "Maison de Mutualité" (whatever that may mean) at Paris, which differs a little from the usual school type; instead of an order, the broad piers of the wall are treated as a kind of reminiscence of the order, finishing with a decoration which occupies the place that the capital would occupy in an ordinary pilaster; a kind of translation of classic detail into more modern constructional form. A more remarkable scheme is that of M. C. E., Lefèvre for "Une Université pour des Études Supérieures," which, though it is not likely to be carried out, might be, and would be a very fine institution. The idea is that of a great University group built at the outskirts of Paris, with a grand entrance court towards the city, and abutting on the other side on a great artificial park with radiating avenues like those of Hampton Court. The plan shows an arrangement of the buildings both effective and hygienic, and altogether this is a scheme well worth attention both for its practical and architectural qualities. This design serves also to emphasise the advantage of the large-scale plans which are required, by custom and common assent if not by rule, in the architectural gallery at the Salon, for here the chief merit and point of the whole scheme lies in the plan, which is of course shown on the same scale as the elevations. M. Bossard's "Centre d'Assistance Mutuelle" is a scheme on a more practicable scale, which may be an actual commission, though not so stated; but unhappily its architectural quality is of the poorest. Then there is M. Coutan's design for a Municipal Palace for a seaport, the chief merit of which lies in its size (if that is to be taken as a merit); and M. Fournier de Saint-Maur's large coloured section of a "Galerie des Fêtes," which may be described as gewgaw *in excelsis*, a kind of more exuberant edition of the Salle des Fêtes of the Hôtel Continental, covered with swags and carved garlands hanging loose in the air, and painted nymphs kicking about in all directions. One must suppose that there are people in France who admire this kind of thing, or it would not be drawn and exhibited; but it is difficult to understand.

Among "projets" of a more practical type is one which M. Masson-Detourbet oddly calls "Projet d'Agrandissement de la Porte-Maillot." As the Porte-Maillot (the main entry to the Bois de Boulogne, at the foot of the Avenue de la Grande Armée) at present consists of some gates and mean-looking keepers' lodges, to call this scheme with a great tower an "enlargement" seems rather absurd. The brick and stone clock-tower, rather spoiled by its over-large corbelled-out turrets at the angles, rises in the centre of the present line of gates, and expands at the base into a line of lower buildings right and left; at the further side of it, next the Bois, the ground is laid out in a large semi-circle with radiating drives connecting with the main avenues of the Bois; these at present radiate more or less from the Porte, but not on a regular geometrical plan. It would make a stately entrance to the Bois instead of the present mean one, and the clock-tower might be a practical convenience at this point; otherwise we should have said that a large arch of entry would have been more appropriate than a tower planted on the centre of the roadway. Then M. Emile Lucas exhibits what is really to the point, a design for a wireless telegraphy station, a new kind of establishment which is waiting for its architectural treatment. He shows a massive masonry tower with very bold rustication at the base and a battered line of walling; the tower carries a great mast securely fixed on the top, and is connected by an open arched porch with a lower building which contains the offices in connexion with the station. The idea is generally meritorious, but a little spoiled by a want of simplicity in the treatment and details of the tower; French architects cannot get rid of that desire for a *curiosa felicitas* of detail, whereas the simpler and bolder such a thing is the better: it would probably be better done in England, if taken in hand by an English architect of the right sort, but we may thank M. Lucas for the suggestion. M. Corlette exhibits the exterior and interior perspective views of his design for Liverpool Cathedral, under the title "Projet de Cathédrale Moderne," a title which he probably thought more in keeping with the habitudes of the Salon architectural room; and Mr. C. A. Nicholson exhibits a "Projet d'un Mausolée Royal," an interior and exterior perspective of a Gothic chapel, which would have more effect but for the rather loaded and gloomy character of the water-colour drawing.

There appears to have been an important competition for a museum to the town of Orleans, several of the competing designs for which appear among the exhibits. As they all include a lofty tower in Gothic style with a large

circular angle turret, it is to be presumed that some such feature was demanded by the official programme. More than one of the designs is picturesque and effective, but they in general suggest a Hôtel de Ville rather than a museum. One of the best is that by M. Juste Lisch, who, while giving to his general design a rather mediæval character and outline, has treated it mostly with detail of a classic type, and given it a less feudal expression than most of the others. The design most suggesting a museum is that by M. Félix Ollivier, in Francis I. style very freely treated. The face to the courtyard, with an elliptical-arch arcade, and a blank wall over decorated with inscription panels and medallions containing busts, is a very pleasing piece of design and suitable to the occasion. Some of the competitors seem to have forgotten that the interior of a museum requires a good deal of wall space, and have pierced their walls with windows everywhere. A recent competition, probably a Beaux-Arts Students' one, for a bell-tower (*beffroi*), leaves its mark on the exhibition in the shape of a number of designs for very lofty and ambitious erections of this kind, more remarkable in general for effect than success; that by M. Leprince-Ringuet (a pupil of M. Laloux) shows however a rather powerful treatment of the masonry stalk, and a great bell hung visibly at the top in the centre of a wrought-iron corona.

M. Lapeyrère exhibits a very interesting set of drawings showing the composition of the Place d'Aquitaine at Bordeaux, "avant et après l'execution du Cours Pasteur." The drawing of the "état actuel" shows a great rusticated stone triumphal arch or gateway in very severe style, with a heavy pediment over it, standing in the middle of an open space, with streets seen in perspective behind it. The treatment proposed or carried out (it is not very obvious which) consists in connecting this arch by curved wing-walls on each side with a façade of new stone buildings, so as to combine the whole into one architectural composition; the wing-walls having each a square-headed passage-way, the whole treated in a massive style in keeping with that of the existing arch. The whole is an interesting piece of work, shown in a very fine set of drawings. M. Louis Paul Petit exhibits the drawings of an interesting modern quasi-oriental building, "La Nouvelle Medersa d'Alger." What a "Medersa" exactly is we do not know, but the building is a large white pavilion in Moorish style with a centre dome and small cupolas at the angles, the principal entrance effectively decorated with coloured tiles. The building stands on the side of a steep hill, so that the main entrance is really on one of the upper floors, and a great flight of wide steps at one side adds to the effect of the whole. In the greatest possible contrast to this is M. Charles Morice's "Groupe Scolaire de Maisons-Alfort (Seine)," one of those severely practical school buildings which the French carry out so well, and a little less like a work-house than some of their Lycées. The administration forms a three-storied central block, and on each side is a range of low buildings with large mullioned windows which finish right under the eaves, the roof being carried by steel girders across the openings; these, it appears from the plan, are covered playgrounds, the class-rooms being placed in the return wings enclosing the open playgrounds. M. Gaudibert's "Caisse d'Épargne de Montbrison" is an ambitious but restless stone building with no coherence in the design. M. Hameau's "Services Municipaux à Saint Denis" shows a graceful classic façade in the centre block, with side blocks apparently containing offices, which are treated in a simple but very effective manner, with a series of semicircular windows on the ground floor and rectangular ones above, a heavy cornice crowning the wall. The plan is an irregular quadrangle enclosing a courtyard. As a design for an official building this is very good. M. Soufaché's "Une Habitation de Plaisance" appears to be only a design for an imaginary house, but it is one of the best things exhibited. It has a rectangular plan with the centre of the front recessed, and at the back is fitted in a large octagonal room half within the line of the plan, the other half forming a projecting bay. The treatment of the front is excellent; the projecting wings are solidly built, with angle quoins and a little very delicate low-relief carving about the window heads; between the wings an open colonnade is carried across, surmounted by a balcony with a graceful metal railing; the whole design shows the refinement of French house architecture at its best. Among actual houses is M. Arnaud's house in Rue Octave Feuillet, showing the usual style of pilastered front but with a door-way filled with dreadful *art-nouveau* iron-work, an offence which is repeated in the balconies. Perspectives of the interior rooms are shown, but they are in very rococo taste. A better specimen of the new Paris House is M. Voisvenel's house, No. 60 Avenue Victor-Hugo, in which the usual elements of a modern French street house are treated with refinement; and the same architect's house, No. 6 Rue Georges-Ville, on a corner site with a re-entering angle, with a compact plan very cleverly arranged on this awkward shaped site, and quite worth study. M. Knight's Seaside Villa for an English family is also a good house design, the plan a good specimen of typical French arrangement (the architect, in spite of his name, is French in residence and in professional education), and the design a very good example of picturesqueness without eccentricity. Another villa by the sea, M. Tronchet's "Villa Lumen," shows on the other hand eccentricity without picturesqueness, and is an extraordinary phenomenon to find on the top of a chalk cliff overlooking the sea.

M. Doillet's "Caserne des Sapeurs-pompiers" at Ménilmontant is an example of one of those business-like barrack buildings which the French carry out in excellent practical style and in very good taste, for there is no incongruous ornament; only one wonders at seeing such enormous sheets of elevation expending in drawing hardly anything but brick jointing and stone rustication: M. Bouvier's Library and Museum at Brest, of which the plan is too high to be seen, is a very satisfactory example of a quietly and suitably treated classic building.

As to churches, there are various examples, nearly all in that heavy Neo-Romanesque manner which has become the accepted type of modern French church architecture, and which somehow seems to present one with the heaviness of Romanesque detail without its structural significance. But there is one really fine church, Notre Dame de Sion at Vienna, by M. Lamorey. This appears to be an actual design by the architect named. The perspective view of the interior shows a design founded on Byzantine architecture, roofed by a series of domes carried on transverse arches, with round arches at the side the whole height of the interior, but cut by a gallery with a simple but well-designed balustrade, the gallery being supported beneath by marble columns with carved quasi-Byzantine caps. If this is really a modern church in Vienna built by a French architect (the catalogue information is so vague that one can never be sure), it is an unusual piece of work and highly creditable to its author.

Among the illustrative drawings is a splendid set of coloured views and geometrical drawings of the interior of the Palatine chapel at Palermo by M. Jean Hulot, now a student at the Villa Medici, and who also sends a fine set of water-colour elevations of antique fragments, forming obviously a part of his student's work there. To judge from his drawings M. Hulot is a student we shall hear of again. There are many interesting sketches and illustrations of ancient or foreign architecture, such illustrative work always forming a large proportion of the Salon exhibits; but with the exception of M. Hulot's splendid drawings just referred to there are none which claim special notice.

It is surprising how small a proportion of the contents of this long gallery is occupied by illustrations of the actual architecture of the day. Five-sixths of the drawings, at least, are either *projets* or illustrations of old work. It is a pity that the French architects, and the Committee of the Salon, do not endeavour to rise a little more to an endeavour after an adequate illustration of the actual architectural work of the year: it would be of more interest than all these imaginary palaces.

PROPOSED REBUILDING OF THE "AULD BRIG," AYR.—A meeting of the Works Committee of Ayr Town Council was held on the 3rd inst., chiefly to consider the question of the rebuilding of Ayr old bridge, for which over 10,000*l.* is available. Mr. John Young, Town Surveyor; Mr. John Eaglesham, C.E., Ayr, ex-surveyor; and Mr. James A. Morris, architect, F.S.A. Scot., submitted reports respecting the proposed restoration.

ORGAN ENLARGEMENT, BRISTOL.—The organ in the Colston Hall, Bristol, has recently been extended and improved. The main features of the design consist of four towers formed of thirty-two open diapason pipes, connected at the sides by semi-circular bays of smaller pipes, and in the centre by flats of similar pipes fitting in with the woodwork of the case. The placing and composition of the pipes and the design of the organ front are in accordance with the suggestions of the architects of the hall, Messrs. Hall-Jones & Cummings. Messrs. Norman & Beard, Ltd., of Norwich and London, carried out the work.

NOTES.

The Trades Union Bill. The Trades Union Bill is at an end for the present session. Owing to an amendment in regard to picketing, which was carried against the Labour Members of the Committee on Monday, its supporters have given up the Bill, though it is finally reported to the House of Commons itself. The wording of the amendment in question was no doubt vague and open to misconstruction, but its object was right—namely, to prevent a person being obstructed, insulted, or annoyed by a person engaged in picketing. It is all very well to say that "annoyance" is a vague word, but it is a bad policy for the Labour Members to allow the idea to get abroad that they object to the limitation of picketing so as to make it a peaceable measure. No doubt the force of this manœuvre lies in its changeable character, and we cannot believe that the House of Commons will ever pass a Bill in a shape in which it can interfere with individual liberty and freedom.

The Public Authorities Protection Act. We have frequently had occasion to draw the attention of our readers to the provisions of the Public Authorities Protection Act, under which an action will not lie against a public authority unless it is commenced within six months "next after the act, neglect, or default complained of, or in the case of the continuance of injury or damage within six months next after the ceasing thereof." In the latest case on this subject, Williams *v.* Mersey Docks and Harbour Board, this Act would seem to have had a somewhat unexpected result. A widow brought an action against the Board, under Lord Campbell's Act, for the death of her husband. The man had sustained injuries in December, 1902, by falling into a lock, but he did not die as a result of these injuries until December, 1904, and the widow commenced her action within six months of his death—viz., on February, 1905. The Court of Appeal have held that the action was not maintainable, since by virtue of the above Act an action would not have been maintainable after such a lapse of time by the deceased man for personal injuries. The Legislation in 1846, when Lord Campbell's Act was passed, clearly intended that the defendants of deceased persons should have a right of action for the most serious loss they can sustain, and it is somewhat surprising to find this right interfered with by a statute passed merely to protect Public Authorities from being harassed by dilatory proceeding, yet this is the effect of the above decision if the injured person happens to linger more than six months. It is the more surprising since it has been held that the death of the person gives an entirely new cause of action, distinct from the action for personal injuries, and therefore in the above case the widow had no cause of action until it was statute barred. Possibly the opinion of the House of Lords will be sought on the point.

Middlesex Main Roads. At the meeting of the Middlesex County Council last week a course of action was decided upon which deserves the highest possible commendation. The decision to which we allude arose out of a motion by Mr. Fraser Black to the effect that a special committee should be appointed to co-operate with the neighbouring counties, and to enlist the assistance of Government, in formulating a scheme for the widening of all main roads leading out of London before the land on either side of these highways became further encroached upon by building operations. Many of these roads have been inconveniently narrow for years past, and accommodation for foot-passengers is by no means adequate. Since the advent of cycles, motor-cars, and tramways, traffic has increased to a remarkable extent, and the construction of tramway and light railway tracks has seriously diminished the space available for other vehicles. Moreover, it is no longer safe for foot-passengers to wander along the roadway as they have been accustomed to do, partly by choice and partly by necessity. The action of the Middlesex County Council reflects credit upon that body, and if their views meet with the support of the other authorities interested, the result will certainly be the saving of many millions of pounds during the next few decades.

Foundations for Columns. In view of the increasing adaptation of columns to building construction, it may be well to direct attention to one or two points that do not always receive sufficient consideration. Let us take the case of a steel column supporting a heavy load, and provided with a cast-iron base, intended to distribute the load over the earth or substructure so as to keep unit pressure within safe limits. The lateral dimensions of the base may be ample, but unless the height of the casting is adequate the load will not be distributed in the manner anticipated. In the case of a column under exceptionally heavy load, it may be necessary to make the base with a height equal to its length, or alternatively to increase the sectional area of the column towards the bottom, with a proportionate reduction in the height of the cast-iron base.

Spherical or Conical Domes. In a communication to the American Society of Civil Engineers, Mr. William Cain discusses the theory of spherical or conical domes of reinforced concrete or metal. Concrete-steel is a material excellently adapted to dome construction, for the concrete alone is perfectly able to take compression, which is the only kind of stress developed in the upper portion of such a structure, and the steel will withstand tension developed in the lower portion. Both analytical and graphical methods of solution are given by the author, the former applying to domes of constant thickness only, and the latter without any such limitation. We cannot here follow the mathematical demonstration of the author, but may mention that, among other points, it proves that, in a conical dome, the base of which is kept from spreading, as, for instance, by means of a hoop, tension is nowhere exerted from its summit down. This type of design consequently is well adapted for sustaining a heavy weight, such as that of a lantern at its summit. A heavy weight at the top of a spherical dome, however, moves the joint of rupture upwards, and thus increases the area over which tension is evidenced. Here the advantage of concrete-steel becomes more especially manifested. The paper is one well deserving of careful study.

The Design of Concrete-Steel Arches. In the current number of the *Proceedings* of the American Society of Civil Engineers, Mr. B. R. Leffler sets forth some short processes in the graphical analysis of the elastic arch, basing his treatment upon the method given by Mr. William Cain in his book on "Steel-Concrete Arches." The author of the paper gives calculations illustrating the manner in which the position of the true closing-line of the equilibrium polygon can be determined without difficulty. As his figures do not refer to actual examples of an arch, no force diagram or line of resistance are shown, but these can be found by the usual methods. One point to be noted by the designer of concrete-steel arches is that if the concrete section is adequate for resisting compression, steel is only required where the line of resistance passes out of the middle third of the plain concrete section. This is reasonable, because tension cannot be caused in the concrete unless the line of resistance passes outside the middle third. From this paper we gather that railway engineers in the United States are somewhat cautious with regard to concrete-steel arches, making the rings of considerable depth. In this event very little steel is required. It is for arch rings of shallow proportions that the value of reinforcement for resisting tension becomes particularly prominent.

Kingston Bridge. It appears that the widening of Kingston Bridge, which we thought had been abandoned, is to be carried out after all. The widening is to consist in an addition of about 30 ft. on the upstream side, so as to increase the total width to 55 ft., and provide room for the service of the London Electric Tramways Company. The laying of the cable is already begun across the bridge, and the tramway lines will, when completed, place the terminus at Tooting in connexion with a large number of suburban districts in the northern parts of Surrey. The alteration of the bridge will be carried out by a joint committee of the County Councils of Middlesex and Surrey, who intend to retain, we are informed, as much as is possible of the original character and architectural effect of the structure. We hope this will be the case, but we should like to hear that some competent architect was being consulted in the matter. When engineers get a matter of this kind in hand, it too often happens that previous assurances as to the preservation of the architectural character of an ancient structure are entirely forgotten, and the engineer puts his own stamp on the work.

A West-end Property for Sale.

AN extensive property, consisting of Nos. 66-7-8, Haymarket, the five adjoining houses, Nos. 13-7, in Charles-street, and Nos. 10-2, St. Alban's-place, will shortly be offered for sale. The block stands upon Crown land, situated between the Haymarket and the Junior United Service Club, and includes the Western Synagogue, which was built about eighty years ago after R. Abraham's designs. Formerly known as the Westminster Synagogue, it claims to be the oldest synagogue in the west part of the town, having been founded, 1797, in Denmark-court, Strand, now part of the site of Exeter-street. The property we mention is held directly from the Crown for a term of ninety-seven years to expire on July 5, 1914, at an aggregate rental of 2,505*l.* 10s. per annum; the ground rent and land-tax amount to 87*l.* 9s. The western portion stands on the site of St. James's-market, built in 1666 for Henry Jermyn, Earl of St. Albans, which enjoyed a high repute in the XVIIth and XVIIIth centuries. St. James's Fair was removed to the market-place in July, 1665, from near St. James's Palace. Most of the market was pulled down by Nash for the laying-out of Waterloo-place and Regent-street, yet some of the market buildings survived to our own day. Six Bells-alley gave place to a thoroughfare which was since widened to 55 ft. for a better approach from, and in continuation of, Charles-street, St. James's-square, to the King's Theatre in the Haymarket. At the St. Alban's tavern, in St. Alban's-street, T. F. Dibdin founded the Roxburghe Club in 1812; Nance Oldfield quitted the Mitre tavern for the stage; in a house on the south side of the poultry market and abutting on Market-lane, lived Hannah Lightfoot, the Quakeress, at a time when King George III., in his youth, often walked through the market on his way to and fro between St. James's Palace and his home in Leicester-fields.

Mr. Staats Forbes's Pictures.

THE executors of the late Mr. Staats Forbes have offered a real boon to all lovers of art by exhibiting to the public at the Grafton Gallery a large selection from the works collected during his lifetime by Mr. Forbes—a collector who really knew what to buy. The result is an exhibition of nearly four hundred pictures or drawings, mostly small, but of which it may be said that there is not one that is not worth looking at, while many are masterpieces. It is rarely that one has such an opportunity. Fancy finding nineteen examples of Diaz together in one corner of a gallery! All of these are good examples of the artist, including both his forest scenes and his figure subjects; and one of the former, the little landscape entitled "Pathway in the Wood" (130), is a thing to rave about. It would be impossible even to mention half the things that are of exceptional interest. The collection includes some beautiful works by Mr. Israels, "The Young Lovers" (17) and "Reverie" (39) especially to be noted; a number of examples of Millet, Mauve, and J. Maris; some fine works by Troyon, especially "Flock of Sheep Crossing the Downs" (82), a noble picture; an exquisite work by Harpignies, "Landscape — Evening" (114); a number of Corots, one of them in his highest style; and other names represented are those of Dupré, Rousseau, Fantin-Latour, Daubigny, Mesdag, Vollon, Morland, Crome, etc., etc.; it is a feast of great things. There is also Millais' fine picture "The Orphans" (339) with its wonderfully painted rabbit. The exhibition is to be open till some time in July, and none who care for pictures should miss it.

Mr. Finn's Water-Colour Drawings.

MR. HERBERT J. FINN, who paints architectural subjects, with sea-pieces as a variation, has another exhibition of his work at Messrs. Dickinson's Gallery in Bond-street. Some of these we have seen exhibited before, but there are many important new works. Among the architectural subjects is a fine interior of St. Bartholomew-the-Great, Smithfield, two or three views of Gloucester and Wells, and a very fine one of Durham in winter (32), from a point of view not often taken—from the south-west; the view from the opposite side of the river has been more frequently painted from the north-west position. Some of the small sea-pieces are as good in their way as the architectural pictures; we may mention especially "Off Greenwich" (35), with the Hospital as a distant object, and a group of sail-barges giving an effective bit of colour in the centre of the picture.

THE NEW GALLERY.

WE have not had space so far to notice the exhibition at the New Gallery, which is not a very remarkable one, but contains some fine portraits and some interesting landscapes. There are no figure pictures of the first order, for Mr. Smithers's "Dan Cupid Forging Chaynes" (171), ambitious enough in subject, is not interesting. Mr. Austen Brown's "Spring Pasture—Morning" (21) is good rather as a composition than in colour. In the South Room, where the numbers commence, Mr. Arthur Hacker's small picture "The Cup" (52), a back view of a female figure seated, holding up a cup, and partially draped in a richly-coloured stuff, is fine both in composition and colour, the more noticeable in the latter respect as colour is not in general this artist's strong point; and Mr. Alfred Hitchens' "Autumn" (31), a small half-nude figure among trees, is a pretty fancy. In the West Room Mr. G. Henry's life-size figure "The Satin Gown" (105), which might be a portrait but is not so called, is noticeable for the fine lines of composition made by pose of the figure and the lines into which her dress falls. In the North Room Mr. W. Wontner's "Nouronnihar" (230), a three-quarter length of a girl in a picturesque costume, her figure defined by a closely fitting garment of grey stuff over which is partly thrown a brightly coloured cloak, is a highly finished painting with a sculptured marble background; and the girl's face is exceptionally lovely, but the whole is rather mechanical in its finish. On the opposite wall hangs Mrs. Rae's curiously prosaic picture with a poetic title—"In Listening Mood" (197), a picture of a very much dressed young lady with a "ravishing" hat, leaning against a tree in the middle of a wood; it reminds one rather of the back-woods heroine in Bret Harte's parody of Cooper's novels—"She took her parasol, drew on her lemon-coloured kid gloves, and plunged into the depths of the forest." Mrs. Swynnerton's "Water-nymph" (187) is even more astounding in its incongruity, though in an opposite direction; a nymph of an exceedingly solid and alarming personality.

Among the portraits Mr. Sargent takes the most important place with his brilliant performance representing "Sir Frank Swettenham" (219), late Governor and Commander-in-Chief of the Straits Settlements, painted (as Jane Austen said of Mrs. Elton) "in all his apparatus" of State Governor; a sumptuous chair and other belongings, beside which stands the Governor, a young-looking man in a light-coloured tropical costume, and face and hands browned by the heat. The attitude of the figure is a little awkward, but as a whole we like this picture, not only as a brilliant piece of painting, but as a sympathetic representation of the type of capable and self-reliant Englishman, taking his responsibilities in a light-hearted manner, of which our Indian and Colonial possessions have developed so many fine examples. Mr. J. J. Shannon's half-length of "Miss Kitty Shannon" (110), her head relieved against a mass of dark foliage, a bit of sky beyond with colour loaded on almost in relief, is a very bold and vigorous piece of work. On the other hand, his full-length of "Mrs. C. W. Lasell" (210) is what one would call not so much bold as "bumptious"—hardly the way to paint a lady. Sir George Reid has a good portrait of "Mr. Balfour Browne" (18), one of the order of portraits which aim simply at being likenesses, without any seeking after extraneous effect. In his portrait of "The Right Reverend James Moorhouse" (100) the head seems rather wooden.

Mr. Wetherbee has sent here what we take to be his best work of the year—it is superior to any that he has in the Royal Academy—"A May Dawn" (139), a bright landscape accentuated by a single figure of a shepherdess standing in the foreground knoll looking into the dawning light; a very poetic work. Among landscapes which have no aid from the introduction of figures, by far the finest is Mr. Arnold Priestman's "Barden Moor" (79), a real piece of landscape composition; in which respect it is worth while to compare it with Mr. Bertram Priestman's "The Cement Works" (252), which may be called a landscape without composition—two parallel banks and a river between them, crossed by one or two ragged trees in the foreground; forcible painting, but not a consistent whole. Mr. David Carr's "The Trout Stream" (60), a good landscape, shows on the other hand a very decisive treatment of composition; the sloping lines of the bank falling towards the left of the picture, and stopped, as it were, at the foot of the slope by the massing of a cottage and foliage. Mr. Fred Hall's "The Purbeck Hills" (71) bright in the sun but with a strong shadow in the foreground, is a well-designed landscape but with a curiously hard dry texture, which looks rather as if the author had aimed at an effect of surface which he has not quite realised. Mr. Arnesby Brown's "After Rain," a road scene with horses, is an interesting attempt to convey the effect of a warm golden sunshine after a shower—a little too much of the gold perhaps, but it is a landscape with individuality, which is more than can be said of Mr. Parton's "Joyous June" (56), merely a repetition of its painter's well-known programme. Among landscapes which are of real interest are Mr. Adrian Stokes's "Afternoon in a Forest" (155), pillared trunks through which the sunlight throws flakes of light on the ground; Mr. Alfred East's "The Road to Longpré" (170); Mr. Leslie Thomson's long level landscape "Near Malmesbury" (240), and Mr. Harold Speed's "The Alcañtara, Toledo by Moonlight" (202), showing the well-known mediæval bridge under a new and picturesque aspect. In the Central Hall there is an interesting series of small landscape studies by Mr. Adrian Stokes (435 to 441), mostly in the South Tyrol.

The sculpture is not much to speak of. Miss Esther Moore has a powerful group on a small scale, entitled "The Merman" (514), and some other well-known sculptors are represented by busts and other small works. The Earl of Wemyss's life-size figure of "Venus at her Toilette" (519) is a highly creditable amateur work. Mr. Havard Thomas's "Lycidas" (533), the rejection of which by the Royal Academy has been so much commented on, we first saw before the demonstration was made about it, but failed to find in it those great qualities which we hear of. We certainly see no reason why it should have been rejected by the Academy, but we can see in it no more than a carefully modelled realistic nude posed in a rather ungainly attitude; nor can we find in it any relation to the title which it bears, which we should imagine had been tacked to it after the work was completed.

There are several cases of jewellery of more or less interest by Mr. A. Fisher, Mr. and Mrs. Gaskin, and others, which we have not space to consider in detail; and a large case in the centre of the Hall of work by M. Lucien Gaillard,

beautiful in execution, but in artistic style too much after the type of what are often summarised as "Articles de Paris."

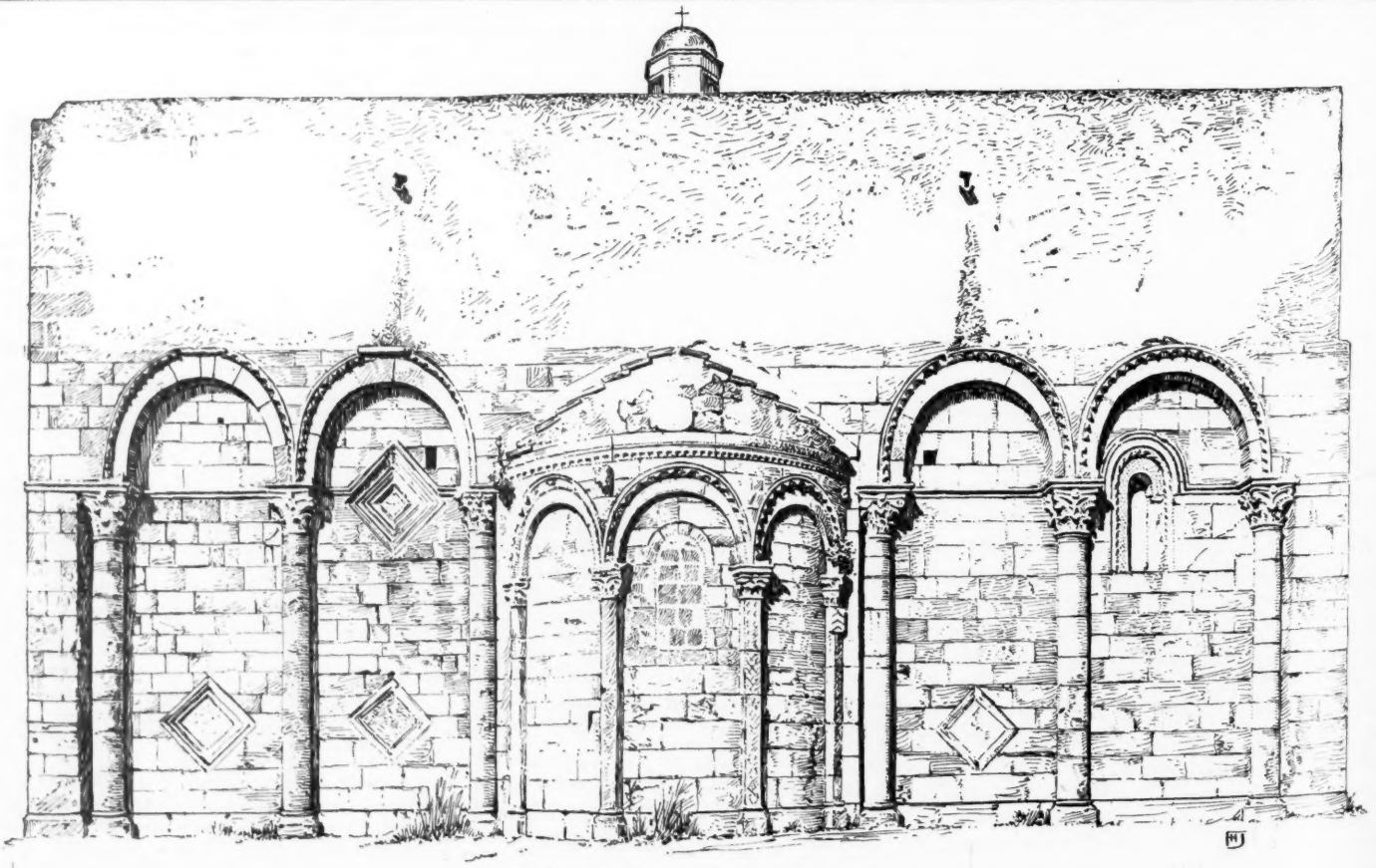
NOTES AND SKETCHES IN SOUTHERN ITALY.—IX.

SIPONTO AND MANFREDONIA.

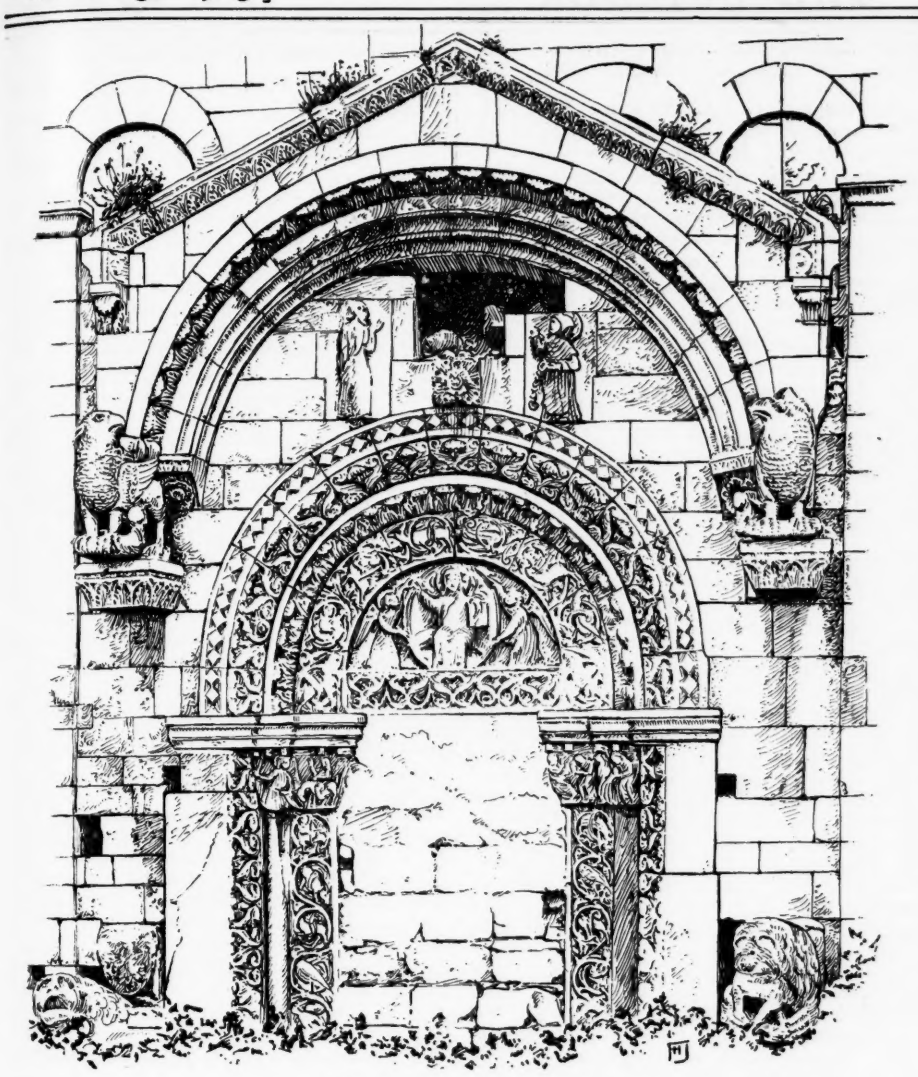
SIPONTO lies on the north-western shore of the Gulf of Manfredonia, below the promontory of Monte Gargano, about twenty miles to the east of Foggia. The Gulf of Manfredonia was known in antiquity as that of Urio, from the name of a city which was near the lake of Varano. The city is ancient; it is one of those with the foundation of which Diomede is credited, and Strabo speaks of it as Sipus. It was more generally known as Sipontum, and had commercial relations with the Thracian Epidaurus on the opposite coast. It became a Roman colony in 194 B.C., and some antique remains have been found mixed up with those of the later city, which was abandoned when Manfred built Manfredonia in 1263 and moved the population thither. The remains of a temple of Diana were discovered in 1875, 30 ft. from the church, when a cistern was being cleaned out. The pavement was cut in the rock, and the cella was found and a little pilaster with a dedication to Diana by a certain Titus Tremelius Antiochus, freedman of Titus, which is now in the Museum at Naples. In a council held in 465 the name of Felix, Bishop of Siponto, occurs, and this is the first mention of it, though, according to tradition, the first bishop was S. Justin, who was consecrated during the life of the Virgin. Bishop Laurentius, to whom the archangel Michael is said to have appeared, causing the foundation of Monte S. Angelo in 493, was a cousin of Zeno, Emperor of Constantinople, who sent him money and workmen to assist in the decoration of his church. "When it was resolved to ornament with elegant and beautiful works the churches of S. Stephen and S. Agatha, situated near to the Adriatic shore, and to build another close to the city in honour of the blessed S. John Baptist, he wrote to the Emperor, hoping that their relationship would dispose him to receive his message favourably. He asked him to send him masters and workmen clever in all arts. The Emperor received the envoy of the holy bishop with joy, and charged himself with sending him the most accomplished artists; further, with devotion and liberality, he charged them to carry to Siponto 150 libræ of gold to contribute to the execution of the works and help in finishing the church. Having received this precious gift, the holy man began and finished admirable and precious works in the basilica of the aforesaid martyrs. Then he began another of a brilliant and wonderful beauty by different colours and little pieces of glass covered with gold with warm reflections, of which it was composed. He took care to do this work in honour of S. John Baptist in his episcopal church." The archbishops went up to Monte Gargano for a time, perhaps fearing the Saracens, and Leo IX. joined the see to Benevento and the ancient church fell into decay. Siponto was the first halting place for illustrious pilgrims whom the cult of S. Michael attracted to Monte S. Angelo, and here they venerated the image of the Virgin. According to Sarnelli, Paschal II. held a council at Siponto in 1117, when he consecrated the newly-built church of S. Maria Maggiore. This was the year of the Council of Benevento. The bones of Bishop Laurentius were placed near the high altar.

There is great resemblance in elevation between this cathedral and those of Troja, Foggia, and Pisa, which all show strong Oriental influence. The exterior is built of limestone of Vallona. At each side of the main door of the western façade are two diamond-shaped sinkings above each other under an arcade and half shafts like those of the Pisan churches; in each arch towards the angle is one on the lower level, the arcade thus consisting of five arches. The grounds of these diamonds are inlaid with various patterns. There appears to have been a continuous stylobate except on the façade. The door has a projecting curved hood richly carved, resting on pillars which themselves rest on lions with a low base, and above the lintel, which is carved and rests on corbels, is a small figure of a man. In front stand two shafts of small columns with sharply-cut foliage on the caps; they bear two lions. There was originally a low-pointed tympanum, the direction of which is shown by the end stones which remain. The southern side is much like the western façade, with a small apse in place of the door. The pilasters of its arcading have been inlaid with diagonal chequers. The cornice is dentilled, and was once deeper than it is now, as is shown by a piece which projects from the wall to the right. Here there are only three of the diamond-shaped sinkings on the low level and one on the higher, which is to the left of the apse. There was once a window in this, now walled up. The arch on the extreme right has a pretty round-headed window, with carved archivolt. The eastern side has also a rough apse with a window below, which lights the crypt. The architectural effect is damaged by additions of the XVIth, XVIIth, and XVIIIth centuries, to which period the bell turret of the western façade also belongs. There is one very pretty window with an external band of interwoven pattern round it and a cable moulding within, beneath the arch on the right hand. The pattern is the same both within and without. The fourth side has been rebuilt, additions made of a sacristy and house for the custodian, and a stair of fifteen steps descends to the crypt. The plan is square, and, since the crypt is square with two apses, it must always have been so; and there is a continuous arcading round the three original sides—four columns to a side with a large central opening. The external measurement is about 64 ft., the thickness of the walls 3 ft. 3 in.; a central square of about 30 ft. is marked by four piers 4 ft. 4 in. square, which support four pointed arches. In the angles four columns are placed about 13 ft. from the ground, themselves much the same height, including base and cap, from which pointed ribs spring, at the summit of which is a circular drum, which has a hemispherical top and round-headed windows above the pointed arches. The aisles have a quarter round waggon vault thrusting against the central square. The two apses are walled up internally, but in the crypt the eastern one is open, raised on two steps; it has two modern windows. The pointed arches are probably of the time of Charles I. of Anjou, who did work both at Siponto and Monte Sant'Angelo after Manfred had built his new cathedral in Manfredonia. The date of 1708 is on the lintel of the door of entry to the crypt, the plan of which is a square of about 48 ft. internal measure. Twenty-five bays of quadripartite vaulting cover it, with projecting ribs. There were originally twenty colonnettes—including the two couples at the sides of the apses—and corresponding corbels in the walls. There are now four great circular piers nearly 5 ft. in diameter, beneath the piers of the upper church. The granite colonnettes vary from 9 in. to 13 in. in diameter, and are all from more ancient buildings; the caps are all different, some classic, some with animals and vine leaves, etc., but all based on Corinthian. The walls are plastered, and the greatest height is just over 15 ft.

Sig. Avena hazards the suggestion that the ground has been steadily sinking, and that the church which Paschal II. consecrated in 1117 was built above the older church, so that in this crypt we may have the original early church, basing his suggestion upon the discovery of the temple of Diana at a level much below the present ground; and one may remark, as another fact in support of his theory, that the plan with three apses in cross shape is a reproduction of an Oriental plan of which several examples still exist in Greece, and resembles that of Germigny



S. Maria Maggiore, Siponto: South Side.



North Door, S. Leonardo.

des Prés, built at the beginning of the IXth century by Théodulphe, Bishop of Orleans.

The building suffered much from earthquake in 1223 and 1226, as did the city. The pointed arches may have been added at this time to strengthen it, but the four large piers appear to be of the XVIth century. There are no documents to give the dates of the building of the various parts, for the Turks in 1620 destroyed the cathedral and bishop's palace at Manfredonia, at which time the archives also were destroyed. The XVIth century work is due to Cardinal Archbishop Antonio del Monte (1506-11). His successor and nephew, Cardinal Archbishop Giovanni Maria del Monte (1512-44), later Pope Julius III., finished it, and Cardinal Archbishop Guinasio (1586-1609) restored it after the damage of the war. The dome is probably of this date. The interior arcade is ancient, the caps are mediæval, and the arches slightly horseshoe in shape. The celebrated Madonna is in the Byzantine manner, and is of course ascribed to S. Luke.

The city was destroyed by the Greeks in 663 during a war with the Lombards, and the Saracens sacked it more than once. In 869 they took Monte Sant' Angelo, fortified it, and held it for some time. From this place Alexander III. embarked for Venice when he went to conclude peace with Barborossa in 1177. It was called the Porto di Capitanata. Conrad IV. disembarked here on January 8, 1252, to take possession of South Italy, and was received by Manfred, who gave up to him the provinces which he had reconquered. Three years later another earthquake destroyed the city (which was unhealthy through malaria also), and it was then that Manfred determined to found Manfredonia. His relation, Malecta, carried out the idea. In 1258 Siponto was pulled down so as to force the inhabitants to move, and the only remains now are two columns, one of which, without a cap, stands in front of the cathedral and one on a square base of masonry in the middle of a field some distance away, with a small iron cross on its cap, and some foundations of houses on the slope of the hill on the other side of the high road. Manfred built a new cathedral in Manfredonia and dedicated it to S. Lorenzo di Siponto, and in 1258 the Sipontine archbishop Ruggiero d'Anglona was able to take possession of it with his clergy, having all the rights and title of the ancient archbishopric which Manfred wished to move. The resulting dispute was only settled at the beginning of the XVIIth century, when S. Lorenzo in Manfredonia was made Vice-Metropolitan of S. Maria, Siponto, the archbishopric remaining at Siponto. The cathedral has a little cupola, but is quite modern inside, a nave without aisles having been reconstructed by Cardinal Orsini. The city was completed by the Angevins, and, after the burning by the Turks in 1620, was rebuilt. The archbishop's palace is close to the cathedral, built, after 1565, by Archbishops Tolomeo Galli and Domenico Guinasio; by the door are a few remains from Siponto and two fine Corinthian caps. The Municipio, formerly the Dominican convent, has a Romanesque doorway. There are a few balconies of a rather fine type, projecting on three-stepped corbels, the faces of which are carved in patterns. The ironwork is sometimes rococo in curve and sometimes simple upright bars with taller uprights at intervals bearing flowers. The castle was built by Maestro Giordano da Monte Sant' Angelo, Charles I. of Anjou's architect, who also built the walls, as Gregorovius says. Schulz ascribes its commencement to Pierre d'Agincourt, but says it was not completed till 1299 under Charles II. It is square in plan, with three round towers at the outside angles, but at the fourth (towards the city) a strong pentagonal bastion. Within are four more towers, three circular and one square. It defied Lantrec's assault, but the Turks took it. The town was given in feud by Giovanna II. of Naples to Sforza. Charles I. of Anjou tried to get it called Siponto Novello, but it still recalls the name of its founder, Manfred.

S. Leonardo: Western Façade of Church, etc.

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All round the city the rocks are covered with the Cactus Opuntia, which bears the fruit known to English people as the Indian fig, and here and there in grassy glades with the grey rock emergent delightful dwarf irises, orchids, and the small blue gentian blossom profusely. Farther away, beyond Siponto, there are upland moors covered with asphodel, the large sort which grows as high as the shoulders of a horse and the smaller, both pink and yellow, and with the coarse grass snowed over with daisies and sprinkled with other flowers. To the south-east are the lagoon-like salt works, and beyond, the blue waters of the gulf of Manfredonia.

Some distance in the direction of Foggia is an interesting building which once belonged to a German knightly order and which is now a "masseria" or farm centre. It is still known as S. Leonardo, and retains portions of its original decoration. It was once one of the richest possessions of the order, and, according to Ughelli, produced an annual revenue of 20,000 florins of gold. There was a church, a hospital, and a monastery, and on the upper floor a fine kitchen of 1223 bearing considerable resemblance to that at Glastonbury. The cloister court is of late date and is now used for farm purposes, and mass is only said in the church once or twice a year—indeed, it is in a very dilapidated state—but on the north side there is a door which still retains much beautiful carving, XIIth century in style, some of it as sharp as the day it was finished. A broad band of arabesques, in which are intertwined beasts and birds, etc., surrounds the door aperture (now closed up), and the tympanum between the round arch and the carved lintel bears a sculpture of Christ seated on the rainbow, holding an open book and blessing, in a vesica supported by two angels. The caps of two colonnettes are carved with stumpy figures, on one side the Adoration of the Kings, on the other Balaam and the Angel. In the wall above are two figures in monkish costume, one of which bears a chain (S. Leonard was the protector of prisoners), and between and above them is a hole, which we were told was made in a search for treasure. The half-length of S. Leonard, which is now in a dark corner of the church, with hood and chain on his shoulder, probably once occupied this place. Above is another moulded and carved arch and a pedimented head. The wall shows irregular round-arched arcading. There were two lions at the base of the door, bearing columns on their backs, with griffins above the caps; this part is much dilapidated.

The church had two domes on pendentives and three apses, with half-wagon vaulted aisles, one of which still exists. The domes were over the sanctuary and at the west end, the intermediate bay having a pointed wagon vault. The western cupola is still intact; it has an octagonal drum with external arcading and a pyramidal roof. The apse cupola has been rebuilt. To the north of the nave is a vaulted chapel of the XVth century. The first pier is much the same as those of the choir at Molfetta and one of those of the portico of Ognissanti, Trani. The others have mouldings, but no carvings. The aisles have pointed arches below the half-wagon vault, as at Molfetta. The central apse has a window with a griffin above it externally and monsters in high relief hanging from the cornice. The façade is divided by four pilaster strips and has two more at the angles; the mouldings of the imposts of the central door are carried across four of them. There is a round-arched corbelling at the summit which ramps over the aisle, and the arrangement suggests a tower at one side originally and another added for defence at the other side. The church existed in the XIIth century, and had a prior, and a chapter, but the fine door may be of the period of Frederick II., a little later. I was disappointed in gaining admission to the kitchen, which is used by the master of the place as his private room and was locked up. F. H. J.

CONGREGATIONAL CHURCH, KILLAMARSH, DERBYSHIRE.—The opening of the new Congregational Church at Killamarsh took place on Easter Monday. The building is of Dunford stone and is a Gothic structure, with two transepts, chancel, and two vestries, with seating accommodation for 410 people. The woodwork is of polished pitch-pine. Mr. Cecil Jackson, of Chesterfield, is the architect. The building contract was let to Messrs. W. Maule & Co., builders and contractors, Nottingham and Chesterfield. The approximate estimate of the cost of the church, exclusive of the site and free labour, is 2,170*l.*

TENDENCIES IN MODERN ARCHITECTURE.

PROFESSOR C. H. REILLY, M.A., A.R.I.B.A., who was appointed some little time ago to the Roscoe Chair of Art and Architecture in the University of Liverpool, in succession to Professor Simpson, delivered an inaugural lecture in the Arts Theatre, Liverpool, on the 4th inst. He took as his subject "Some Tendencies in Modern Architecture," and in the course of his remarks he pointed out that until the close of the XVIIIth century there was always observable in the architecture of this country a dignity, reticence, and restraint which, whether buildings were in the Gothic, Renaissance, or Classical style, marked them off as different from buildings in the corresponding styles on the Continent. The work both of Inigo Jones and of Wren bore this peculiarly English impress. Unfortunately, at the end of the XVIIIth century the continuity of the native tradition in English architecture was broken. With the Victorian era there came in a so-called freedom of treatment which offered encouragement to a variety of shams. Amid the confusion there arose what had been termed the Gothic revival; but since moral enthusiasm was not art, and since the old cathedrals were a growth representing an ideal which it was not possible now to revive, the most effective examples of modern Gothic were those which departed most freely from archaic models. In these circumstances two tendencies in modern English architecture showed themselves. One was an effort to pick up the thread of English tradition where it had been dropped a century ago, and the other was an endeavour to deal with materials in an artistic spirit. The first was shown in the public buildings erected in recent years by municipal authorities, cases in which designs were usually chosen after competition. The idea which in those cases the architect had to express was the dignity of civic life, and since our ideas of dignity were associated with the pillared halls, the ample flights of steps, and the impressive vistas of Roman architecture, that style had mostly been adopted as appropriate. He failed to see why classic forms should not be adapted to modern needs, both public and private. If the mistake at the end of the XVIIIth century had been an attempt to make the cottage and the villa look like a mansion, the mistake at the end of the XIXth century was making the mansion look like a cottage, and garnishing the drawing-room with the furniture and utensils of the kitchen. He pleaded for the value of the classic style, modified by English taste in domestic as well as in public architecture. The old streets and squares of Bath were the ideal of privacy and restraint, and the growing taste for antique furniture, which was as different from modern as a Nottingham curtain from a piece of old lace, pointed to a return to the ample rooms and handsome staircases of the older style. A new trade pattern chimney-piece was a blot in a room furnished with pieces by Chippendale or Hebblethwaite. There were in Liverpool many old houses, not unlike those at Bath, containing beautiful antique work, which the students of the School of Architecture proposed to study. Their drawings with notes would be published from time to time in order to preserve a record of these remains of good taste. He regretted that the street arrangements of English towns to-day were not generally favourable to good architectural treatment, improvements leaving irregularly-shaped sites, which no architect could deal with to advantage. On the other hand, architecture following English tradition allowed of a union of sculpture and architecture which would be good for both arts. St. George's Hall, for example, would gain greatly in dignity were its pedestals filled with the statues for which they were intended. Professor Reilly proceeded to remark upon the selection of materials as an important part of style, and cited various examples of buildings which owed the whole of their effect to the material and its treatment. The recognition of this by architects was one of the most hopeful signs of the architectural revival.

WESLEYAN CHAPEL, SCARBOROUGH.—The foundation-stones were recently laid of a new Wesleyan chapel which is to be erected at the corner of Hoxton-road and Columbus-ravine, Scarborough. The building will have the Sunday school and four vestries on the ground floor, and the chapel proper above. Seating accommodation will be provided in chapel for 350 persons, and in the school for 360 children. It is being erected from plans prepared by Mr. F. A. Tugwell.

RESIDENTIAL FLATS.

AT a meeting of the Royal Sanitary Institute, held at the Institute on Monday evening, under the chairmanship of Sir Wm. Emerson, a discussion took place on "Housing in Mansions let as Flats."

Dr. Louis C. Parkes (Medical Officer of Health for the Metropolitan Borough of Chelsea) opened the proceedings with a paper in which he dealt with the question chiefly from the point of view of the effect on the health of the people. He referred to the statistics of the late Dr. Farr and other early pioneers of vital statistics, in which it was proved that density of population on area was an essential cause of a high death-rate, and said that now with the great advances which had been made in the science of domestic sanitation it appeared possible to house large numbers on a small area under perfectly healthy conditions. It was, however, too early to accept without qualification this statement. They might conclude, however, that if flats were an evil they appeared to be a necessary evil, their growth in London being dependent upon the increase in the value of land in nearly all residential districts. He thought, however, that the development of the motor-car would probably be effective in time in providing an antidote for the continually ascending price of land. With private motor-cars for the wealthy, and with electric railways, tube railways, electric tramways, and motor omnibuses for the ordinary citizen, who would care to live in central London, with its enervating smoke-laden atmosphere and its perpetual noise, rattle, and worry?

Mr. W. Rolfe said that the subject for discussion, "Housing in Mansions let as Flats," which he was to bring before them, concerned a gradual development of that class of building during the past thirty years. It had not been carried out systematically, as in Paris or Berlin, and certainly not with the rapid growth of New York, but rather with the adaptation of sites from time to time as separate buildings, and not built in sequence in new thoroughfares. Had Wren's or other more recent street arrangements been carried out, London to-day probably would not contain whole streets of this class of buildings. So far as he could see, London never would be a city of flats. Did the housing of residents in flats meet a want? For the purposes of that discussion he would confine attention to a radius of one or two miles from Charing Cross. Flats in the best positions should realise rental values of from 800*l.* to 80*l.* per annum, the first to have ample accommodation for servants, and the second accommodation for one or two persons. Many who selected such residences kept no conveyance, so that the sites should be near to travelling facilities. Crowded situations, positions where sufficient outlook, rear space, etc., could not be provided, should be avoided. The corner of two streets was a good position, but a better was where the building fronted on to a street and had in its rear an open garden or square. It was important also to consider the sunny aspect of such buildings. He thought that the main features of flats as residences were a maximum of accommodation in a minimum of space. The principal entrance to such a building should be central, with a good hall with fireplace and wide staircase, well lighted, and carpeted. If there was a passenger lift it should, where practicable, be worked by electricity. Then the landings of the stairs on each floor should be roomy and well lighted, and the stairway should be carried right up to the roof flat. Accommodation in a flat would, of course, vary according to position and rental value, but it should consist of a hall, a good-sized reception-room, and a dining-room. Leading from the hall there should be a corridor on which the bedrooms should open, and one of the bedrooms should be a good one with a good outlook. There should also be a bath-room and a water-closet, and a store and wine cupboard, while the kitchen should be approached from a special passage leading from the hall. A pantry for washing glass and cleaning plate was quite as necessary as a scullery. In highly-rented flats accommodation would, of course, have to be provided for servants, the maids on the top story and the men in the basement story. Tradesmen should have an approach away from the principal entrance, and a goods lift was also a most desirable thing to have. As to the drainage, he was of opinion that where practicable all pipes should be

accommodated in the middle area or side areas, and there should be free access to the foot of each pipe. Apart from other reasons there was this objection to flats over shops—the great difficulty of providing good drainage. For the drainage system glazed stoneware pipes in concrete were preferable to iron pipes and the interiors of manholes should be glazed. Dustbins of galvanised iron should be provided and the dry refuse should be kept from the wet. As a rule he had found that fireplaces in flats were too large and the rooms were overheated in consequence. All fireplaces, therefore, should be provided with blowers and fresh air intakes. The great point to be considered in designing the floors was that they should be fire-resisting and sound proof. Concrete encasing steel joists was the best form of construction; and there should be a space between the upper side of the concrete and the wood floor. Where there were fire escape stairs they should be solid and formed with the building, for he considered that the open iron stairs which were used were questionable in case of panic. In conclusion, he remarked that there should be a good telephone system from each flat to the entrance hall, and the bell and electric light wires should be able to be inspected.

Dr. Sykes, Medical Officer for St. Pancras, did not think the price of land in the centre of London would fall, but that it would continue to rise. He believed central London would become a city of flats like every other big city in the world. The great necessity for flats from the health point of view was through ventilation.

Mr. F. Hooper remarked that those who had been associated with clearance schemes in London had at first felt great satisfaction at the result, but it must be remembered that the first tenants in the erected flats were all picked tenants. He felt that one of the essentials of flats must be the adoption of methods to deaden sound.

Professor Kenwood deplored the miserable accommodation invariably provided for servants in flats, and believed it must have a prejudicial effect on health.

Mr. Turner considered that every facility in the way of tramways, etc., should be given to enable working men to live out of the centre of London. The rooms in the present artisans' dwellings were in his opinion too small.

Mr. E. White, L.C.C., thought that those who intended designing or building flats should first live in them to note the defects. He had lived in a flat, and when he commenced to build flats he introduced various things to deaden noise and to give proper ventilation to the buildings.

Dr. Cockburn also considered that ventilation was the chief thing to be aimed at in the building of flats, and he especially emphasised the necessity of cross ventilation in front of the water-closets.

The Chairman said he, for one, could not believe that the crowding on small areas was a good thing. It might be that, so far, they had been lucky in escaping an epidemic, but what would happen if there was a great outbreak of infectious disease?

Votes of thanks to the readers of the papers and to the Chairman concluded the proceedings.

HOUSING AND CHEAP COTTAGES.

A MEETING in support of the Cheap Cottages Exhibition, to be held at Letchworth (Garden City), from July 15 to September 30, as a practical effort towards the solution of the Housing problem, was held on Wednesday at Westminster Palace Hotel, the Earl of Onslow, G.C.M.G., presiding.

The Chairman said he had received a letter from Mr. Ailwyn Fellowes, President of the Board of Agriculture, regretting his inability to be present, and stating that he wished the undertaking every success. The Chairman, proceeding, said that the meeting was of great public interest and importance. There were three necessities for cottage accommodation—cheapness, decency, and sanitation. There was a great dearth of labour throughout the rural districts of England, mainly because it was difficult to find housing accommodation. Unless they could provide comfortable and decent houses they could not expect to increase the number of small holders of land, and he believed that the system of small holdings was the only practicable step which could be taken towards getting the people back to the land. They had heard a great deal on the subject of by-laws, and then some persons suggested that the agitation against by-laws in rural districts was got up by the landowners because they wanted jerry-built cottages on their estates. As a member of that class he indignantly repudiated that slander on their intentions. They wanted by-laws; but the by-laws must be elastic and suitable for the locality. Fixed by-laws which worked well in London were not always suitable for the country. If they were to provide cottages at all they could only do it on the condition that they could erect them cheaply, and if they could show on the spot a sound and sanitary cottage which could be put up for £150, or even less, and if they could produce contractors who would say they were prepared to erect those cottages on any man's estate and show that they were in accordance with the model rural by-laws of the Local Government Board, to which he took no exception whatever, then there would be a great increase throughout the country of men who would be willing to have such cottages put up, and the housing question would be solved.

Lord Hylton moved:—"That this meeting pledges itself to support the Cheap Cottages Exhibition as a practical effort towards the solution of the housing problem."

This was seconded by Mr. Crooks, M.P., who said he wanted cheap cottages built so as to encourage people to stop in the country instead of flocking into the towns. He expressed the hope that when the cheap cottages were built the owners would be content with a moderate return on their outlay—say 4 per cent., or whatever was fair. With that proviso he welcomed the project. They would not rear an Imperial race in slums and hovels. They wanted cottages adequate for bringing up a family in a proper manner.

The resolution was supported by Sir Walter Lawrence, who said that, from the landowner's point of view, even cheap cottages repaid the landlord, for by providing good, decent homes he got better labour for his money.

Lord Carrington said that it was absolutely necessary that money should be advanced by the State for the building of cottages.

Several other speakers said that, in their opinion, the rush to the towns was not a rush for life and gaiety, but was largely due to the want of decent and cheap cottages in the country.

The resolution was carried unanimously.

THE ART UNION OF LONDON.

THE general meeting of members of the rt Union of London was held in the Lecture Hall of the Society of Arts, John-street, Adelphi, on the 5th inst., to receive the report of the Council and to distribute the prizes of works of art for the year 1904-1905. The chair was occupied by Lord Windsor, the President, who moved the adoption of the report, and Mr. R. B. Martin, M.P., seconded.

The Council stated that the amount of the subscriptions for the year now ending had enabled them, after setting aside 1,227*l.* for the works of art presented to subscribers, to devote the sum of 436*l.* 4s. to the prizes to be distributed, making, with the consolation prizes awarded to unsuccessful members, a total of 183 prizes. The Council had selected from among a number of works submitted to them a few small water-colour drawings, which would be included as minor prizes, and also copies of Miss Canton's little statuary group, "The Minuet," the copyright of which the Society has recently purchased from the artist. The work has been reproduced by Messrs Dellagana, by the method known as "Kupronising." Among the prizes were some Rouge Flambe Bowls which had been produced by Messrs. Doulton at their Burslem works. This ware, the peculiarity of which is its glowing ruby-red glaze, is one of the latest developments of the modern potter's art, for, says the report, although its prototype is to be found in a few surviving and priceless specimens of old Chinese porcelain, the secret of its production has been lost for centuries, and it is only within the last year or two that the effort to re-discover it, an effort which has involved the most prolonged and patient experiments and great expenditure of money, has been rewarded with success.

The coming October 21 being the centenary of the Battle of Trafalgar and of the death of Nelson, the Council have commissioned from Mr. W. L. Wyllie, A.R.A., in commemoration of the occasion, an etching from his painting of "Trafalgar," on exhibition at the Royal Academy. The moment the artist has chosen to depict is about half-past two in the afternoon, and the "Victory" is seen just casting off from the "Redoutable," after the duel in which Nelson received his death wound.

The injury which has resulted to the status of the British engraver and his art from the long-continued popular preference for photographic process work, and from the absence of adequate opportunity for the study of engraving, has for some time engaged the attention of the Council. Happily, within the last two or three years there has been a distinct revival of favour for pure engraving, and the Council, feeling that the moment was opportune seriously to consider the feasibility of establishing a properly-equipped engraving school on national lines, addressed representations in the matter to the authorities. The following reply from the Royal Academy is published with the Academy's permission:—"The President and Council are in agreement with the opinion that there is a promise of better conditions for the art in the reaction which has set in against one of these causes—the photographic reproduction of paintings—a reaction which has certainly led to a revival of the art; and the Academy has already decided shortly to put in force the rule enabling it to elect engravers into its body—a rule which through the almost complete decay of the art had for some years fallen into abeyance. When this is done the Academy will be in a better position to take up the subject and to consider the feasibility of establishing a school of engraving, as to the desirability of which they are in complete accordance with the views of the Art Union."

That it was high time something was done to restore to British engraving the prestige it once enjoyed was evident from the fact that for the reproduction of so essentially national a work as Mr. Abbey's Coronation picture the publishers have had recourse to the services of an eminent foreign etcher.

Negotiations with the Canadian Government with a view to an amendment of the recent law prohibiting the operations of art unions throughout the Dominion were still proceeding, and strong hopes are entertained that the opposition to the amendment, which was confined to the representatives of a single province in the Dominion, might eventually be overcome.

The report then refers to the additions made during the year to the National Gallery and other art galleries. In reference to the British Museum, it is stated that there has been some notable acquisitions made, of which three Greek bronzes were the chief. A warrior on horseback, dating from the VIth century, was one of the finest archaic pieces that had come down to us, and was exhibited in 1903 at the Burlington Fine Arts Club. The second, believed to date from about 400 B.C., was a relief, "Venus and Anchises on Mount Ida," found at Paramythia towards the end of the XVIIIth century, and was bought for 2,250*l.* at the Hawkins' sale in June. The third bronze was a figure of Hermes, about 8 in. high, the base of which was restored by Flaxman. In the print room many of the new additions, perhaps a thouand or more items, were from the bequest of William Arnold Sandby. Then there was a set of early proofs of Whistler lithographs, presented by Mr. T. R. Way; landscape sketches by the late Thomas Collier; two copperplates and seven wood blocks by Edward Calvert; lithographic portraits by Mr. Will Rothenstein; and Mr. William Mitchell had added to his valuable gift of nine years ago by presenting 150 volumes containing woodcuts of the early German school. Among these are copies of the "Quatuor Libri Amorum," 1502, and "Works of Hrosvita," 1501, with many fine specimens of Holbein and Dürer.

The purchases made by the President and Council for the Chantrey Collection in 1904 were the pictures "London River," by Mr. Napier Hemy, A.R.A., and "Fate," by Mr. Arthur Wardle; and the sculpture in marble by Mr. Pegram, A.R.A., called "Sybilla Fatidica." The prolonged agitation for reforms in the administration of the Chantrey Bequest resulted in the appointment in June of a Select Committee of Inquiry, which commenced its sittings in July. The bequest first came into operation in 1877, and since then 109 works had been purchased, and are now exhibited as the Chantrey Collection at the National Gallery of British Art. It had been contended that the selection of works was too strictly confined to the Royal Academy Exhibitions, and that in this way a representative collection of British art could not be formed; that, as a

matter of fact, some of the most famous and distinguished artists of the period were entirely unrepresented in the collection. The Committee took evidence on these points (as far as evidence could be given on matters of opinion) from the President and many members of the Royal Academy, and from well-known critics and writers on art. The evidence given before the Committee showed clearly that, whatever opinions as to the artistic merits of the collection may be held, the cause of complaint may lie in the terms of the will of Sir Francis Chantrey as well as in the manner of the carrying out of those terms by the body to whom the duty was entrusted by him. The alteration of the will itself was, of course, a matter for Parliament, and until Parliament found time therefore to make some change, it was probable that the Academy would continue to act, as heretofore, in accordance with what they conceive to have been the intentions of Chantrey as expressed in his will.

The President, in moving the adoption of the report, said it was gratifying to feel that the depression due to the South Afrian war was giving place to a more satisfactory state of things. After remarking that important additions had been made during the past year to the national art collections, he said that considerable additions to the buildings of the British Museum had been begun. On the opposite side to the front of the Museum a most important addition was going to be made, principally for the library, and that addition was part of what ultimately would be the completion of the four sides of the Museum.

The report having been adopted, the drawings for the various prizes took place. The prize of 100*l.* was taken by Mr. J. H. Bentley, of Folkestone.

A vote of thanks to Lord Windsor for presiding was heartily agreed to, on the motion of Mr. Mackrell.

THE SURVEYORS' INSTITUTION:

PROFESSIONAL EXAMINATIONS, 1905.

THE following student candidates have passed the examination for the Professional Associate :—

Allen, O. W., London.
Bannister, M. D., Hayward's Heath.
Barrons, B. A., Exeter.
Bayne, E. G., London.
Bentley, A. W., Regent's Park, N.W.
Blake, R. L., Southsea.
Blomfield, C. G., Lewisham, S.E.
Bradley, C. G., Barrow-in-Furness.
Bray, J. S., Exeter.
Bruzaud, S. J., Shortlands.
Burge, J. T., Clifton, Bristol.
Burkitt, H., Bishop Auckland.
Burnett, L. T., Croydon.
Burstal, A. C., Wimbledon.
Carpenter, L., London.
Carter, J. E., Brixton, S.W.
Chamberlain, H. S., Southsea.
Clark, D. W., Twickenham.
Clark, L. V., Brockley, S.E.
Clark, R. M., Dover.
Corfield, A. K., Northenden, Cheshire.
Cox, D. H., North Finchley, N.
Coxon, H. A., Surbiton.
Dampney, C. J., Ealing, W.
Eastman, A. G., Beckenham.
Ellis, C. E., Enfield.
Emery, D. W., Cosham.
Ferrey, G. C., Harlesden, N.W.
Fitch, P., London.
Gibson, F. S., Uxbridge.
Gilks, S. L. C., Putney.
Gowing, C. T., Sprowston, Norwich.
Gudgeon, H. L., Southsea.
Hallam, F. V., Lewisham, S.E.
Harris, E. C., Wandsworth Common, S.W.
Harrison, H. P., Winshill, Burton-on-Trent.
Haynes, J. W., Brighton.
Hayton, J. D. W., Muswell Hill, N.
Hayward, A. L., Walmer.
Hazard, C. J., Stoke Newington, N.
Henderson, C. E., Aspatria.
Hennell, C. M., Kensington, W.
Hepworth, E. A., Cheetham Hill, Manchester.
Hollis, R. E., Windsor.
Hosking, H. A., Landrake, St. Germans.
†Hurcomb, H. F., Oxford.
Jennings, W. A., Ilford.
Klosz, H. J., Hampstead, N.W.
LeMay, T. D., Tonbridge.
Loram, J. A., Uckfield.
Lyne, H., Brigg.
McDougall, D. R., Streatham, S.W.
Mahomed, H., London.
‡Mathews, H. S., Edgbaston, Birmingham.
Newhouse, E., Slyne, Lancashire.
Nuttall, G. P., Bury.
Palmer, C. D., Norwich.
Perkins, S. B., East Stonehouse
§*Petrie, A. R., New Barnet.
Power, P. T., Walton-on-Thames.
Priest, A., Keynsham, near Bristol.
Procter, C. H., Burley-in-Wharfedale, near Leeds.
Reeve, G. N., Croydon.
Richardson, G., Leeds.
Richardson, W. S., Muswell Hill, N.
Rodwell L. H., Aspatria.
Rogers, L. S., Croydon.
Rowland, H. E., Aylesbury.
Royce, B., Leicester.
Ryde, J. T., Woking.
Scammell T. E., Hither Green, Catford, S.E.
Shephard, J. E., Canonbury, N.
Smith, H. F. G, Southampton.
Smith, P., Ripon.
Smith, W. B., Rushden.
Spreckley, R. O., Hereford.
Stacey, M. B., Reigate.
Stimson, D. C., Brixton Hill, S.W.
Sturt, L., Tollington Park, N.
Talbot, C. G., Beckenham.
Thynne, R. L., Wandsworth-common, S.W.
Tivendale, T., Highbury-hill, N.
Vining, E. L. R., Sydenham, S.E.
Weguelin, J. D. R., Croydon.
Wickenden, E., Tunbridge Wells.
Wightman, W. O., Purley.
Willmott, J. P., Ealing, W.
Wykes, H. I., Clapham Common, S.W.
Young, S., Lewes.

* Institution Prize. † Special Prize. § Penfold Silver Medal. ‡ Beadel Prize.

Candidate—Scotland.

Makins, J. V., Glasgow.

Candidate—Ireland.

Montgomery, W. A., Belfast.

The following non-student candidates have also passed the examination for the Professional Associateship :—

Allfrey, H. L., Winchcombe, R.S.O.
Andrew, R. C., Newport, Salop.
Aylward, G. T., Bassett, Southampton.
Badcock, G. S., Brighton.
Ballantine, H., Englefield Green.
Ballard, W. E., Handsworth, Birmingham.
Barnard, D. C., Aspatria, Cumberland.
Bayes, J. G., Radlett, R.S.O.
Bevis, C. T., Southsea.
Biker, W. J. E., Harrogate.
Blaber, M., Shoreham,
Bladen, L. M. W., Stone, Staffordshire.
Blencowe, S., Torpoint, Cornwall.
Bowes, O. J., Newcastle-on-Tyne.
Boyd, R. H., Upper Tooting, S.W.
Brackett, J. S., London.
Brander, F. W., Surbiton.
Briggs, A. D., Kew.
Browne, H. G., Bromley.
Budgett, W. H., Finchley, N.
Bullock, B., Mitcham.
Burbidge, J. S , Lewes.
Burn, J., Potters Bar, N.
Burr T. A , Hampstead, N.W.
Burt J. T., Leicester.
Carey, W. H , Wandsworth Common, S.W.
Cator, C. A. M., Norwich.
Child, G. M., Kew Gardens.
Clark, C H., Kensington, W
Clarke, P. C., Richmond.
Clarke, T. G., Llandaff.
Cowley, H. R , Southend-on-Sea
Crosher, W. S., Highbury, N.
Culverwell, W., Crouch End, N.
Curtiss, E. H., Bayswater, W.
Dallimore N. E , Herne Hill S E.
Dalzell W. D., Stanwix, Carlisle.
*Dannatt, P. B., Blackheath, S.E.
Davenport, H., Putney, S.W.
Dawson, R., Barking.
Deacon, R. W., Jun., Brixton, S W.
Duckworth, W. E., Yatton, Somerset.
Dunn W., London.
Durbridge, E. London.
Dyke, H G., London.
Ellen, F. C. G., Andover.
Evans, B. G., Wandsworth Common, S.W.
Evans, E. D., Wandsworth Common, S.W.
Ewin, J. C., Hornsey, N.
Fairweather, N. B., Streatham Hill, S.W.
Featherstonehaugh, E. W., London.
Feltham, A. W., Alton.
Fife, J. D., Potters Bar.
Fisher, T. G., Wembley.
Fisher, T. R., Plymouth.
Fogg, T. H., Babbacombe, Torquay.
Fortune, S. H., Bath.
Foster, G., Richmond, Surrey
Gallop, W J. Stroud.
Gardner, J., Richmond, Surrey.
Garnham, E. A. V., Wealdstone, Harrow.
Gee, A. H. Marlborough.
Gibson, A. K., Chippenham Soham.
Gibson F. M., Gillingham.
Glenn, G. F., London.
Gluckstein, S. A., Canonbury, N.
Gowland S. L., Tooting Common, S.W.
Graham, H. C., Letchworth, near Hitchin.
Gray, T. C., Finchley, N.
Gray, W. E., Canterbury.
Hagger, A. J., St. Leonards.
Hall, F. S., Dublin.
Hall, S., Haslingden.
Harris, K. D., High Wycombe.
Harrison A. R., Aylestone, Leicester.
Hawkes, G. C., London.
Heald, H. M., Leeds.
Hendra, A. J., London.
Hepworth, H. R., Wakefield.
Hewitt, F., Balham, S.W.
Hickman, F. D., Canonbury, N.
Hollins, S., Watford.
Holmes, H. H., Highgate, N.
Hopkinson, R. B., Huddersfield.
Horrocks, P. A. London.
Houghton, J. G., Woodford, Essex.
Howard, A. C., Southend-on-Sea.
Hubbard, W. H., St. Leonards.
Hudson, J C., Audenshaw, Manchester.
Ibbotson, W. B., London.
Isard, E., Redhill.
Isitt, S. G., Salisbury.
Iverson, A. H. P., Blackheath, S.E.
Jackson, S. R., Hale End, Essex.
James, G. E., Stroud Green, N.
Janes, W. J., Streatham, S.W.
Jeckells, W. A., Wallington.
Jessup, D. P., West Hampstead, N.W.
Jones, J. F., London.
King, P. J. C., Headingley, Leeds.
Lamb, P. H., Lancaster.
Lancaster, S. J., Liverpool.
Lavarack, H. U., Hampstead, N.W.
Lawrance, J., Jun., Paddington, W.
Laws, S. B., Sutton.
Leatham, N. C., Wakefield.
Leech, D. H., Timperley, Cheshire.
Lees, H. B., Birkenhead, Cheshire.
Lowsley, S. E., Harrogate.
Mackenzie, H. B., Harlesden, N.W.
Mann, A. H., East Dulwich, S.E.
Marler, G. S., Barnes, S.W.
Mason, A. S., Liverpool.
May, G. E., London.
Merriman, J. A. E., Mortehoe.
Metson, G., Burnley.
Morgan, H. W., Acton, W.
Mundy, H. A. G., Hove.
Murrell, S. J., Chingford.
Nicholson, E., Kearsley, Farnworth, Bolton.
North, M. F., Kensington, W.
Nottage, P. G., Bourne End.
Oldfield, C. C., King's Lynn.
Page, J., Leeds.
Parsons, A. S., King's Norton.
Pearce, W. H., Southend-on-Sea.
Pitt, J. H., West Kilburn, N.W.
Pope, H. B., Kingston-on-Thames.
Povey, S. G., Southend-on-Sea.
Prevatt, F. C., Shepherd's Bush, W.
Pritchard, E., Epping.
Pursey, C., Bridgwater.
Richardson, W. E., West Acton, W.
Rix, A. H. G. H., London.
Robertson, C. A., Muswell Hill, N.
Robinson, F. S., Southend-on-Sea.
Robinson, H. L., Clapham, S.W.
Robinson, J. C. E., Newport Pagnell.
Robinson, K. D. S., London.
Rowe, A. V., Rainbow Hill, Worcester.
Royds, H. G. T., Hatfield.
Rushworth, H. M., Norbury, S.W.
Ryde, E. H. N., Woking.
Salvin, T., Broom, Rotherham.
Schroeder, E., Greenwich, S.E.
Seago, R. W., Beccles.
Sharp, H. F., Queensbury, near Bradford.
Shepherd, E. T., West Croydon.
Smallbone, H. J., Streatley-on-Thames.
Smith, E. G., Tipton.
Smith, E. W., Dover.
Smith, P. J., Exeter.
Smith, S. P., Leeds.
Snodgrass, R., Guildford.
Spiller, R. G., Taunton.
Stevens, N. R., West Enfield.
Steward, G. E., Leeds.
Sutton, C. N. S., Woking.
Symes, J. G., New Cross, S.E.
Taylor, W. G., Hanwell.
Teare, J. E., Douglas, Isle of Man.
Teasdale, G. W., Dartford.
Thatcher, I. J., Montpelier, Bristol.
Thomas, A. J., Swansea.
Thomas, F. C., Leytonstone-road, E.
Thomas, F. J., Swansea.
Turner, B. G., Walmer.
Turner, H. C. P., Brixton, S.W.
Tyser, G. L., Hampstead, N.W.
Upton, T. H., Petworth.
Vernon, A. S., High Wycombe.
Waddington, C. C., Hampstead, N.W.
Waller, H., Bicester.
Waterman, A., Fulham-road, S.W.
Watkins, H. A., West Norwood, S.E.
Wheeler, P. H., Acton, W.
White, A. L., Stamford Hill, N.
White, J. W. E., Tunbridge Wells.
Wickenden, A. F., Tunbridge Wells.
Williams, C., Wembley.
Wood, H. R., Bristol.
Woodward, H. G., Stowmarket.
Worley, F. H., Green-lanes, N.
Worth, G. P., Brentford.
Young, H. H., Streatham, S.W.

Candidates—Scotland.

Blair, W., Greenock, N.B.
Carruth, A., Kilbarchan, N.B.
Robertson, C. B., Edinburgh.

Candidate—Ireland.

Fowler, C. K., Dromahair, Co. Leitrim.

The following Professional Associates have passed the Fellowship examination :—

Allen, L. H., Upper Clapton, N.E.
Anderson, H., Portmadoc.
Ash, H. J., Stamford.
Bare, A. E., London.
Bedford, C. E., Acton, W.
Benjamin, A. F., Hyde Park, W.
Betenson, F. R., Bedford-row, W.C.
Blair, J. W., Nuneaton.
Boddington, P. E., Willesden Green, N.W.
Broad, S. L., Chiswick, W.
Brown, A. F., London.
Bulley, H. W., Exeter.
Burstow, R. H., Hailsham.
Chattell, A. P., London.
Coates, L. C., London.
Crump, E. H., Hinckley.
Crump, H., West Hampstead, N.W.
Cubitt, H. W., London.
Culver, H. G., Twickenham Park.
Dadd, C. J. T., London.
Davies, L. O., Ealing.
Drake, F. A., Ealing, W.
Dunt, J. H., Streatham Common, S.W.
Duttson, R. C., Bromley, Kent.
Elliott, J. W. F., Salcombe, R.S.O.
Ermen, C. E. A., Chester.
Fairchild, E. J., London.
Farnham, W. A., Sidcup.
Fitch, S., High Wycombe.
Foster, W., London.
Francis, R. G., Gt. Cornard, Sudbury.
Genders, P. R., Wandsworth Common, S.W.
Glasier, E. B., Wimbledon Park, S.W.
Goodchild, W. C., Goodmayes.
Gripper, J. B., Woking.
Hanson, H., Edgerton, Huddersfield.
Harding, C. R., East Grinstead.
Hards, J. F. S., Westminster, S.W.
Harrington, F. J., London.
Hay, P. G., Wallington.
Hayward, J., Bath.
Heath, J. L., Clissold Park, N.
Hewitt, F., Streatham, S.W.
Hinton, H. A., Highgate, N.
Hoare, A. J., Clapham Park, S.W.
Hodges, W. W., Croydon.
Huggins, E. G., Highbury, N.
Ingram, J. F., Lewes.
Insley, G. P., Bournemouth.
Jones, A. E., Newcastle, Staffordshire.
Keele, J. D., Highbury, N.
Knox, L. N., London.
Living, R., Plaistow.
‡Loban, G. T., London.
Lucas, J. C., Lewes.
Lynde, W. M., Balham, S.W.
Madge, W., London.
Mason, F. S., Putney, S.W.
May, P. J., Saxmundham.
Mayhead, B. S., Lavender Hill, S.W.
Newborn, C. R., Strand, W.C.
Newling, A. N., Liverpool.
Newton, J. W., Leytonstone.
†Norman, C. F., London.
Nye, E. G., Guildford.
Owen, H. B., Newcastle, Staffordshire.
Parsons, M. H. D., Exeter.
Pepler, G. L., Croydon.
Poole, H. H., Kensington, W.
Pritchard, H., St. Fagans, near Cardiff.
Puddicombe, W. P., Swansea.
Rawlence, D. A., Salisbury.
Rawlence, J., Wimborne.
Reaney, H. de Lisle, Ealing, W.
Rippon, H., West Ealing, W.
Rogers, F. J., London.
Rogers, M. S., Putney Hill, S.W.
Russ, E., Hither Green, S.E.
Sanders, F. L., Chesham.
Sansom, W. S. V., Colchester.
Saunders, A. P., Ealing, W.
Shotton, J. S., Warrington.
Sladdin, F. R. E., Adelphi, W.C.
Smith, C. H., Chippenham.
Smith, E. E., Dartford, Kent.
Sneath, F. E., Hendon, N.W.
Sparke, N. L., Shanghai.
*Spensley, J. C., Hampstead, N.W.
Spyer, G., West Hampstead, N.W.
Strudwick, F. E., Bromley.
Tait, W. I., Nuneaton.
Thornton, A. B., Sydenham, S.E.
Thwaites, A. M., Hornsey, N.
Thwaites, G. P., Hornsey, N.
Titford, H. J., Southend-on-Sea.
Tomlin, F. F., Wood Green, N.
Veale, L. C., Finsbury Park, N.
Waller, H. B., Reading.
Walton, L. M., Bexley.
Waterman, B. E., Dartford.
Watson, E., St. Paul's Cray, Kent.
Watts, A. R., London.
Watts, E. W., Anerley, Park, S.E.
Watts, F. S., London.
Westbrook, C. E., St. Albans.
Whatley, E. J., Newmarket.
Williams, H., Croydon.
Wilson, G. L., Wandsworth Common, S.W.
Young, C. A., London.
Young, C. E., Barking, E.

* Crawter Prize. † Galsworthy Prize. ‡ Penfold Gold Medal.

The following candidates have passed the Direct Fellowship examination :—

Champion, P., Darenth.
Jackson, R., Wrightington, near Wigan.
Nicholson, G. M., London.
Selby, R., Barrow-in-Furness.
Slater, E. A., Colchester.
Wilson, F., St. Andrew's, Bristol.
Woodcock, R. F., Haslemere.

Candidate—Ireland.

Hargrave, W. H., Dublin.

* Driver Prize.

ARCHITECTURAL SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—A party of members of the Edinburgh Architectural Association visited Niddrie Marischal on Saturday, last week. Mr. J. T. Baillie, Vice-President, who acted as leader, made reference to the article on the house and the family already contributed to the published transactions of the Association by Mr. Thomas Ross, and thereafter led the party over the buildings and grounds. Much interest was evinced in the old tower, begun about 1600, and converted later into a spacious staircase to serve the south wing, which was built by Sir John Wauchope, who succeeded to the estate about 1632. Sir John afterwards decorated the dining-room ceiling, still existing, with devices in honour of Charles II. On the motion of the President, Mr. Tarbolton, a vote of thanks was heartily accorded to Mrs. Wauchope, and the services of the leader acknowledged.

LEEDS AND YORKSHIRE ARCHITECTURAL SOCIETY.—The following is the list of officers elected for the year commencing May 1, 1905:—President—Mr. G. Bertram Bulmer; Vice-Presidents—Messrs. H. S. Chorley and W. G. Smithson; Hon. Treasurer—Mr. W. H. Thorp; Hon. Librarian—Mr. G. F. Bowman; Hon. Secretary—Mr. Robert P. Oglesby (12, East Parade, Leeds); Members of Council—Messrs. Percy Robinson, T. Marshall, F. Musto, H. A. Chapman, A. R. Hill, G. E. Reason (Assoc. Mem.); Past Presidents (members *ex officio*)—Messrs. J. W. Connon, Henry Perkin, W. H. Thorp, G. B. Bulmer, E. J. Dodgson, W. Carby Hall, and Butler Wilson.

Correspondence.

ARCHITECTS' DRAWINGS.

SIR,—The paragraph in the *Builder* of May 6, culled from the *American Architect and Building News*, commenting on the case of Gibbon *v.* Pease, ought to be convincing to all save those who are determined *not* to be convinced.

Surely architects are the right persons to hold possession of their own drawings and documents as between client and builder; the latter has never in my experience disapproved of such a course.

If drawings (for which we are *not* paid, not being vendors of pictures) made by our own hands, on our own paper, in our own chambers, our own time, with our own materials and instruments, and, lastly, with our own brains, are *not* our own, to whom with any better claim *do* they belong? As well might we claim the tools of the carpenter, they having been employed in the performance of our work, merely because we have paid for such work. It is our misfortune, not our fault, if, after approval, our designs are abandoned by our clients; but surely this cannot justify their claim to be able to duplicate them elsewhere to the detriment of our art, to say nothing of our pocket, and then have the assurance to lay the blame of such travesty, if any, at our door! Such injustice cannot sleep; time, if nothing else, must and will rectify it.

I venture to think that if this question had come through the "working man" (*i.e.*, one "not paid to think"), the good old rule, *audi alteram partem*, might at the very least have brought about a patient hearing. I don't think it can be said with truth that we are as a profession unreasonable or unduly grasping—judging by the very many kind letters I have received during close on forty years' practice from those who began as clients and ended as friends, this has not been the case with myself.

To sum up, it is, I think, a few cantankerous ones who have brought this scourge to the light, and nothing is wanted on our part but "a long pull, a strong pull, and a pull *all together*" to rectify it. This should be easy, if our self-respect is what it ought to be. It is the "lawless science of our law, that codeless myriad of precedent, that wilderness of single instances" that wants looking into. If the copyright of music and the drama is held to be so sacred, surely architects and sculptors should also have their creations and rights respected.

E. SWINFEN HARRIS, F.R.I.B.A.

COUNCIL ELECTION R.I.B.A.

SIR,—In the circular issued by Mr. George Aitchison, R.A., Mr. J. Macvicar Anderson, Sir William Emerson, and Sir Aston Webb, R.A., all Past Presidents of the Institute, occur these words:—"It appears to us of the greatest importance that the members of its Council should be representative architects of the highest standing, whose names are well known to the profession and the public; for without the experience and assistance of such men we are convinced the work of the Institute cannot prosper or confidence in it be maintained." And they "urge the importance of selecting only the most representative men as members of its Council, in whom all can have confidence while this important question (compulsory registration of architects) is being considered. If this is not done," they add, "we are convinced a very serious crisis will arise in the affairs of the Institute which will paralyse, if it does not wreck, its usefulness and thus defeat the object we all have in view—*i.e.*, the advancement and the highest interests of the art of architecture."

These are weighty words, and it behoves all members to weigh them well if they seek to advance the highest aims of the Institute, to record their votes in accordance with the advice given, and to refuse their support to those candidates whose avowed aim is to force through the compulsory registration of architects under Parliamentary powers.

I have voted in every election since I was elected a Fellow, and have sometimes been surprised at seeing the names of those nominated and elected, but never have I been more surprised than in the *personnel* of the present Council. When the list came out it appeared to me, and to many I venture to think, as a veritable *débâcle*, when men by no means "representative architects of the highest standing" occupied the seats of many who were.

To those entitled to vote and who have not yet done so, not knowing among the extensive list of candidates this year against whom to place a X, I would suggest that the circular issued by Mr. W. Gillbee Scott offers some valuable hints.

COLE A. ADAMS.

SIR,—Is not the recent canvassing for election on the Council a little undignified for a "Royal Institute"? The four circular letters received by me appear to be about equally objectionable. Whilst standing for election on the Council, it is surely not necessary to take up a "ticket" as in a trades union society. To "register or not to register" is doubtlessly an important question—in fact, much too important to be settled by the members of any one particular council. Whilst cordially agreeing with the "principle of registration," I feel strongly that the Council should be composed of men of catholic opinions, and who have the general interests of the Institute at heart, rather than this one particular subject to the exclusion of all others.

F.R.I.B.A.

THE R.I.B.A. AND REGISTRATION.

SIR,—The short article on this subject in your issue of the 6th inst. has scarcely done justice to the judgment of those who advocate the statutory enrolment of qualified architects.

My reply would be briefly as follows:—

1. Architecture is an art, but essentially differentiated from painting and sculpture by being based upon utilitarian wants requiring much technical knowledge, and this difference is, in the interests of the public, sufficient to justify the exclusion of untrained persons from the use of the title "architect."

2. That registration would indirectly benefit the profession does not invalidate the principle of the movement.

3. The fact of the Institution of Civil Engineers comprising practically all qualified men, and at the same time excluding from membership all but highly-trained candidates, is, so far from being an argument against us, strongly in our favour. This profession is as varied in character and function as our own, yet the compulsory and exclusive system is applied with excellent results. I would add that a recent and rapid conversion to this protective policy warrants an expectation that the Institution would not hesitate to promote legislation if the profession of civil engineers showed an incapacity for cohesion such as architects have always exhibited.

4. I venture to think, moreover, that you overlook the two great facts which underlie our confidence in the success of this movement, namely:—

(*a*) That it is merely making compulsory a course of training which the new and powerful Education Board of the Institute has drawn up and declared to be essential for all architectural students, and

(*b*) That the Institute examinations, which in future will doubtless be founded on the recommendations of the Board of Education, are compulsory, and that we only wish to extend the benefits of this principle to the entire profession.

No members of the Institute who have not openly condemned its system of compulsory examinations can consistently oppose a measure which was clearly foreseen and provided for in two clauses of its charter.

W. H. SETH-SMITH.

SIR,—In reply to your note in your last issue upon Mr. Middleton's letter, the view he takes as to the education value of registration is not, as you suppose, a new one, but is one which has been advocated in this district for many years, and was an argument used by several of the representatives of the allied societies at the first meeting of the Registration Committee.

We fail to see how the scheme of the Board of Architectural Education is to be applied to more than a fortunate few of the young men entering the profession unless there be compulsion under registration, when it will be applied to the whole of them, and greatly elevate the profession.

The medical profession are thoroughly prepared for the work, but we know that this was not generally so before their Act was passed.

EDWD. M. GIBBS.

Sheffield, May 10.

*** No doubt; but medicine is a science, not an art.—ED.

R.I.B.A. STUDENTS.

SIR,—In the Report of the Committee of the R.I.B.A. recently published is an expression of regret that so large a number of students remain on the list without proceeding to the Final examination. As one of these students who passed the Intermediate examination longer ago than the four years suggested in the conditions of the examinations, I may be able to give a few of the reasons for this state of things, and also, possibly, a suggestion for obviating it in the future.

I notice that, according to the Calendar of the R.I.B.A., not one of the Associate members of the Council has passed the Intermediate examination, and, so far as I can ascertain, only one of the other members has passed any qualifying examination for membership, and that, therefore, the Council is not in a position to realise the amount of labour involved in preparing for an examination while the candidate is, at the same time, working seven or more hours a day at the desk. Those who have passed through the classes and studio, particularly the studio, of the A.A., know that the one idea of the majority of the students is to work for the R.I.B.A. examinations, with the result that any subject not directly connected with those examinations is put off for future leisure, and, in the large majority of cases, postponed for ever. I presume that the majority of those who pass the Intermediate examination do so within their first five years' connexion with the profession, during which time they have worked for the greater part of their leisure studying the theory of construction and the history of architecture to the extent required by that examination; and, at the end of that time, for various causes—the feeling that they have deserved a rest for a year or two, or (with the more fortunate) a budding practice or a continental tour—they have neglected to continue the studies which directly prepare for the Final examination until the time arrives when they commence independent practice. Henceforward the necessity of earning a living, and the very meagre return for hard work during the first years of practice—work which probably consists in most cases of competition drawings for themselves, sketches for possible clients, perspective and working drawings for older architects, and from which return office expenses have to be deducted—leave the candidate very little time or enthusiasm for the preparation of the large number of testimonies of study required, quite apart from the studious portion of the preparation.

I therefore venture to suggest to the Board of Examiners that there should be but one examination after the very necessary Preliminary, and that there should be fewer testimonies of study required than now for the Intermediate and Final examinations taken together, while the papers should also be a combination of those set at both these examinations, thus superseding the present Special Final examination, for which but few testimonies of study are required. This would leave candidates more

time to compete for the prizes and studentships offered by the R.I.B.A. and R.A., for many of which age limits are fixed. Many of those who have won these prizes have not passed the examinations, possibly for the reasons above mentioned. STUDENT R.I.B.A.

ON SOME EFFECTS OF ARTIFICIAL HEATING.

SIR,—I beg leave to address you upon a question of some importance to those concerned with the design or the management of public institutions, in particular—although it, in fact, has a far wider bearing—in respect to the effect upon the human body of modern means of heating, depending, broadly speaking, upon the conveyance of heat by radiation and convection respectively, for upon either one or the other, or a combination of both, all such means must obviously depend. The question of open fireplaces versus heating by hot water or steam, etc., is an old one, but I venture to suggest that it is generally looked at more in respect of fuel consumption, convenience, and first cost than from an actually scientific standpoint, having in view the essentially different physical effects of the two methods. I have not the presumption, in making the following remarks, to attempt to instruct the many readers of your valuable paper upon points of science, and I, therefore, offer them more in the manner of suggestions for comment than as actual statements of fact, and it is necessary, in so doing, for the purpose of clear explanation, I think, to start with a reminder of two elementary truths with which most educated people are familiar, viz.:—

"Radiant heat, falling upon the surfaces of any body in the vicinity of that from which they emanate, is, according to the nature of those bodies, absorbed in them, or transmitted through them, or may again be reflected from them."

Convection, in the transmission of heat, is the "picking-up," or the transmission to air or water or other fluids or gases, of heat when the same are passing over the surfaces of heated bodies, such as when air passes over a radiator, or water over the tubes of a condenser.

Everyone has experienced, in a cold room with a fire in it, when standing in front of the fire, the sensation of being warm on the side facing the fire and chilly on the other, the reason, of course, being that the heat rays strike upon the body in a line with them, and are absorbed, so raising the temperature of that part, while those not impinging upon the body pass through the air practically without warming it, unless it is very moist, until they are received upon the walls and furniture of the room in varying degree depending upon the distance.

In artificial heating, by hot water, for example, radiant heat, so far as practical value goes, is absent, the heat being imparted to the air by the process of convection alone, as shown by the fact that a sheet of dry paper might be placed within a few inches of a hot-water or steam radiator for hours without being scorched, although the air in the room might speedily become warmed to an unbearable extent. Now, if the valves controlling a hot-water radiator were closed, the radiator would, of course, cool down to the temperature of the surrounding air, beyond which degree it obviously could not fall, for if the radiator were cooler than the air the process would be reversed, *i.e.*, the "radiador" would take heat from the air. The term "radiator" is, therefore, really a misnomer, as has often been remarked, but the human body, in the sense in which the term is generally used, is itself a "radiator," and, owing to this cause, in cold climates where the truly radiant heat received from the sun is slight, the natives support the heat necessary to be maintained in their bodies by, to a large extent, a diet imparting heat. For example, in such cases a flesh diet is more needed than in hot sunny climates, and is instanced by a comparison between foods consumed by the Esquimaux and the natives of India.

Now it is impossible, for obvious reasons of comfort, practically to heat by convection to a temperature at which the human body will not part with heat to the surrounding air, for to do that we should have to keep our rooms near 98 deg. Fahr. What, then, must be the effect upon persons living for long periods in rooms heated upon this method of convection alone?

I suggest that it must at length result in a sensation of chilliness, although the room to a person who has not been in it for a considerable length of time, limited, however, generally to hours (this time depending upon the state of health and constitution), may seem to be at a comfortable temperature. I fail to see how it could be otherwise unless under a diet which would not appeal to the modern Englishman, not to mention the necessity for exercise not usually obtainable by nurses or patients in hospitals or asylums.

I have myself experienced this inherent and unavoidable defect of heating systems depending upon heat imparted to the air only, and I have made these observations with the intention of suggesting that it is necessary in choosing a heating system for hospitals, etc., to remember that radiant heat must be resorted to in conjunction with heat by convection process if comfortable and healthy results are to be achieved.

It is, of course, quite feasible to heat churches or chapels and meeting halls, or even offices, quite satisfactorily by convection systems; for, as a rule, these are not tenanted by any one person for a sufficient length of time for the phenomenon I have described to be noticed, except in a few individual cases in which poor health is generally the explanation of the effect being felt sooner than usual.

I, therefore, submit that it would be well if public authorities, and others, would bear in mind that open fireplaces, although deemed by some "old-fashioned," are not merely ornaments to please the eyes of hospital patients, etc., but are actual necessities.

I may add that (to use the stock phrase) "I hold no brief" for any system in particular, but I believe in making proper use of all—in fact, my training would lead me principally in the direction of the convection methods.

T. J. CODD, A.M.I.M.E.

MAPLE FLOORING.

SIR,—The statement by "Builder's Assistant" that maple is the best wearing of the hardwoods, is quite incorrect. Some oak and most of the teaks, to say nothing of several other kinds of hardwoods, are much more reliable for their wearing qualities.

He is quite correct as to the treacherous nature of maple, and we quite agree that the precautions he suggests are very advisable.

DAMMAN & CO.

ACHITECTURAL DRAUGHTSMEN IN CANADA.

SIR,—Could you or any of your readers give me any idea of the chance a draughtsman would have of obtaining work in Canada?

I understand that in San Francisco one can get work at a good salary, and live inexpensively, but I should much prefer Canada, if there is a good chance of obtaining employment there.

Perhaps some of your readers may be able to help me or to tell me where to go for information. R. B. C.

COMPETITIONS.

NEW SCHOOL AT TAUNTON.—The official statement of the result of this competition, sent to us last week for publication, omitted the name of the assessor, Mr. Charles Hadfield, of Sheffield.

KING'S COLLEGE HOSPITAL.—The King's College Hospital Removal Committee, following the advice of their assessor, Mr. Rowland Plumbe, have awarded the first place to the design sent in by Mr. W. A. Pite, F.R.I.B.A., of the firm of Messrs. Pite & Balfour. The Committee have also appointed Mr. Pite to act as the architect of the new hospital buildings.

HOSPITAL, ALTRINCHAM, CHESHIRE.—The District Council have accepted the plans of Mr. Wm. Owen, Duchy Chambers, Clarence-street, Manchester, for the erection of a hospital for infectious diseases. The designs were submitted in a limited competition, and were awarded the first place by the assessor, Mr. Frank Briggs, F.R.I.B.A., Liverpool.

BOOKS RECEIVED.

THE COUNTRY GENTLEMAN'S ESTATE BOOK. 1905. Edited by W. Broomhall. (The Country Gentlemen's Association.)

GAS ENGINES AND PRODUCER GAS-PLANTS. By R. E. Mathot; translated from the French. (Crosby Lockwood & Son.)

INDUSTRIE ARDOISIÈRE: CARRIÈRES ET MINES. Par G. Larivière. (C. H. Broodbank: London.)

DECIMAL COINAGE AND THE METRIC SYSTEM. By Edwyn Anthony, M.A. Second Edition. (G. Routledge & Sons. 2s. 6d.)

A GRAMMAR OF GREEK ART. By Percy Gardner, Litt.D. (Macmillan & Co. 7s. 6d.)

THE DESIGN OF BEAMS, GIRDERS, AND COLUMNS. By W. H. Atherton, M.Sc. (Chas. Griffin & Co.)

COURT OF COMMON COUNCIL.

THE Court of Common Council re-assembled after the Easter vacation on Thursday last week, the Lord Mayor presiding.

Street Improvements.—The Improvements and Finance Committee submitted a report dealing with a number of proposed street improvements, among them being a proposal to acquire so much of No. 85, Knightrider-street as was required for the widening of Friday-street for the sum of 2,000*l.* The proposal was agreed to.

Lighting of Streets.—On the recommendation of the Streets Committee it was agreed to adopt a scheme for lighting Queen Victoria-street, a portion of Queen-street, Fleet-street, and a portion of Upper Thames-street with high-pressure gas lamps in lieu of the existing electric arc lamps. It is stated that the Committee have recently been carrying out photometrical tests of the comparative illuminating powers of electric and gas lamps in the City.

Paving Works.—The Streets Committee further recommended that the contract with the Val de Travers Asphalte Company for maintaining the carriageways of Moorgate-street and Finsbury-pavement be extended for one year at the rate of 1s. 6d. per yd. super., an increase of 6d. per yd. super. on the present price. The recommendation was agreed to.

Having transacted other business, the Court adjourned.

Illustrations.

STAIRCASE, MUNICIPAL BUILDINGS, WALSALL.

THESE buildings were commenced about three years ago, and are now completed, the opening being fixed for September next.

The view shown is that of the principal staircase, the door in front giving access to the anteroom of the council chamber, the return flights of the staircase being carried up to give access to the committee-rooms.

The decorative part of the design has been executed in Bath stone, the walls finished in plaster and painted; the floors are all veined, Sicilian marble, and the ceilings in fibrous plaster, by Mr. Gilbert Seale.

There are two finely designed stained glass windows lighting the staircase at this level, these being the work of Mr. A. Garth Jones, and executed by Messrs. Abbott & Co., of Lancaster.

The general contractors were Messrs. Armitage & Hodgson, of Leeds, and Mr. W. C. Lee acted as clerk of works.

JAMES S. GIBSON.

DESIGN FOR A HOUSE.

THIS is a design for a house based on the American "colonial" style. It was proposed that the walls should be of brick, "rough-cast," the quoins of stone, the cornice and columns of wood painted white, the louvre shutters being painted bright green. The roof would be covered with green slates, the flat of lead surrounded by a wooden balustrade. It was proposed that internally all the woodwork should be painted white. R. A. BRIGGS.

"FRAMEWOOD": THE ENTRANCE FRONT.

A VIEW of the garden front of this house was published in our issue of June 18, 1904, with a plan and a brief description. We now give a view of the entrance front.

Mr. Gerald C. Horsley is the architect.

HOUSE AT ENFIELD.

IN this tile-hung house, designed by Messrs. Hart & Waterhouse, now in course of erection, an attempt has been made to preserve a quiet, dignified character, such as is so often seen in old farmhouses; and when the tiles are weathered and the colour of the rough-cast brought into harmony, as it is sure to be by time, a pleasing countrified effect will result. The chief rooms face south, and the ground slopes away gently, so that good views are obtained. A broad terrace runs along the back of the house, and it is proposed to form a shelter from the wind at both ends.

The interior is being well finished with panellings and wooden ceilings, and there is some interesting glass.

Messrs. Akers & Co., of Norwood, are the builders. The drawing is exhibited at the Royal Academy.

The Student's Column.

TYPICAL STRUCTURES IN CONCRETE-STEEL.—XIX.

TRANSIT SHEDS: MANCHESTER SHIP CANAL.

SO rapidly has traffic increased on the Manchester Ship Canal that continual additions have been necessary to the accommodation originally provided at the inland terminal. For some time past the old docks have been inconveniently crowded and the warehouse capacity has been much overtaxed. Hence, two or three years ago, it became absolutely essential to provide additional quay space for vessels and facilities for dealing with merchandise brought into and sent out from the port.

The works then decided upon included the construction of new docks and quays, the erection of extensive ranges of buildings for use as transit sheds, and the laying-out of railways, sidings, and roads. The site secured was formerly occupied by the Manchester Race Course Company, and covers an area of some 150 acres. About 21½ acres of this will be devoted to the new docks, and the remaining portion to the quays and the other auxiliary works.

The first dock, officially known as Dock No. 9, with an area of 15½ acres, has already been completed; while the other, Dock No. 10, which will have an area of 6 acres, remains to be built.

In the present article we have to deal only with the series of five transit sheds built in connexion with Dock No. 9. These sheds, having a frontage of about 2,250 ft., extend almost from end to end of the quay along the south side of the new dock, and have a uniform width of 110 ft.

In view of the disastrous fires which have occurred in various ports where combustible buildings existed, the directors of the Manchester Ship Canal wisely determined that their new building should embody the most approved system of fire-resisting construction. Concrete-steel is a material admirably complying with the required conditions, and one that has already been applied on an extensive scale to the building of warehouses on the Thames, at Southampton, and at other British ports.

The new sheds at the Manchester docks are built entirely of concrete-steel on the Hennebique system, the general designs having been prepared by Mr. W. H. Hunter, M.Inst.C.E., Chief Engineer to the Manchester Ship Canal, and the details of construction by Mr. L. G. Mouchel, representing the patentee in this country. The building contractors were Messrs. Lovatt & Brueder, of Wolverhampton.

The middle shed is 450 ft. long, and the other four 425 ft. long each, the whole series being connected by gangways or bridges joining the upper floors and the roofs of adjacent buildings. Fig. 129 is a half-elevation of one of the 425-ft. sheds. This drawing shows the south front facing the railway sidings, the north front on the opposite side facing the new dock. Although known as sheds, it will be seen that the buildings are of more important character than is suggested by the designation applied to them. Each shed comprises three floors and a flat roof, virtually constituting a fourth floor. The height from the ground floor to the under side of the main beams of the first floor is 14 ft. 3 in., the height of the first story is 8 ft. 4 in., and that of the second story 8 ft. 7 in. These measurements are taken in each case to the under side of the floor beams. The height of the sheds from ground level to the roof is 45 ft., and to the ridges of the towers 51 ft. 3 in. All the roofs are flat, so as to be available for the storage of packing-cases, crates, and merchandise not liable to injury by the weather, the collective floor area provided by the series of five sheds being about 950,000 sq. ft., or nearly 22 acres.

The floors of the first story are prolonged to form a balcony 12 ft. wide along the south front of each building, except where interrupted by the towers, of which two are shown in Figs. 129 and 130. Another balcony, with a width of 4 ft., runs along the north front. These balconies are indicated in broken lines on Fig. 130, which is a half-plan of one 425-ft. shed. The two towers in Fig. 129 are used for hoisting purposes, and the two turrets are small buildings on the roof, situated above the two staircases shown in Fig. 130.

Construction was commenced in July, 1903, and finished early this year, about six months in advance of the contract time, the total cost of the sheds, exclusive of fittings and equipment, amounting to more than 150,000*l*. The quantity of concrete used on the sheds alone exceeded 26,000 cubic yds., and over 5,000 tons of steel were employed as reinforcement. The number of workmen employed varied from 350 to 400, and of this number about twenty, including foremen carpenters and cementers, were of French nationality.

Sand and gravel for concrete-making were provided by material excavated during the construction of the new dock, and special plant was laid down for washing, sorting, and crushing the materials. The moulds for the concrete necessitated the employment of more than 141,000 cubic ft. of timber.

For the purpose of facilitating the erection of the superstructure, a track was laid along the whole length of the sheds, front and back, upon which a travelling stage was placed and moved from point to point, as required. This stage was equipped with two concrete mixers of the Oehler type, each capable of making 40 cubic yds. of concrete in ten hours.

A small portable crane, running upon a transverse set of rails, was used to charge the concrete mixers. A large crane, travelling upon the main track, was employed for hoisting concrete and steel to the various floors and roof of the sheds. This crane had a jib with a radius of 23 ft., and was capable of raising a load of 1½ tons to a height of 50 ft.

The general method of construction being the same for each of the five sheds, it is only necessary to describe in detail a typical section of one shed.

The foundations are provided by ninety-three concrete piers 6 ft. wide and 16 ft. deep, spaced 25 ft. apart centre to centre. These foundations are really extensions of the piers supporting the arched construction of the quay wall, each of them having a total length of 149 ft.—37 ft. being beneath the quay and 112 ft. between the front and back boundaries of the new sheds. Below the south front of the sheds the ends of the piers are connected by concrete arches 3 ft. thick, which were built without much excavation, as the earth was merely cut to the curve selected for the intrados of the arch, and, after being carefully dressed, was covered by concrete deposited upon it between timber shutters. By the adoption of this plan, the expense of excavation and refilling was entirely avoided, as well as that of erecting and removing moulds. Moreover, the arches receive valuable assistance from the solid earth, which has far greater bearing power than material repacked into an excavation.

Owing to the low level of the concrete piers, it was necessary to build brick footings (see Fig. 131) for the support of the column bases. These footings, about 7 ft. 9 in. square by 4 ft. high, are spaced 22 ft. apart, so that there are six of them along each of the concrete piers, which, as mentioned above, are spaced 25 ft. apart. Thus, as shown by Fig. 130, there are eighty-five main columns in each of the four 425-ft. by 110-ft. sheds. In the 450-ft. by 110-ft. shed there are ninety-five main columns. Upon the brick piers are fixed cast-iron base-plates 4 ft. in diameter by 9 in. high, the top of each being level with the surface of the ground floor. The bases afford bearing for the steel bars forming the vertical reinforcement of the columns, and over them are placed dome-shaped shields of cast-iron. These, being filled with concrete, serve to hold the columns rigidly at the base, and at the same time to protect them from accidental injury.

The reinforcement of the columns consists of vertical bars connected, at intervals of about 6 in. apart, by $\frac{9}{16}$-in. diameter steel ties. The vertical bars are of $1\frac{7}{8}$ in. diameter and 16 ft. 6 in. long, so as to extend from the base-plate to about 2 ft. above the first floor, where they are connected with the vertical reinforcement of the section above. Steel angle bars are also provided outside the corner of every column for the purpose of shielding the concrete from injury in the course of daily work in the sheds. These angles measure 4 in. by 4 in. by ¾ in., and extend from the floor almost to the ceiling of each story. They are attached to the columns by 6-in. strips of hoop iron riveted to them at intervals, the ends of the stripes being split for a length of about 2 in. and opened in opposite directions so as to afford a secure bond.

When all the reinforcement and the angle plates had been erected and temporarily secured in position, the cast-iron bases and dome-shaped shields were filled in with concrete, which was well rammed. The column moulds were then erected and shored up. One side of each mould was left open, as illustrated in Fig. 10 *ante*. The concrete was deposited in layers 6 in. thick, boards being fixed one at a time across the open side of the mould as each layer of concrete was finished. The concrete was mixed fairly wet, so as to make it easy to fill all spaces in the moulds, and it was rammed down until water rose to the surface, the ramming being performed by iron bars with a right-angled bend of 3 in. long at the end.

All the columns were built in a similar manner, but the details of construction necessarily varied in accordance with the loads to be carried. Fig. 132 contains cross-sections of typical columns on the various floors of the sheds. Commencing at 20 in. square with ten vertical bars on the ground floor, the columns were reduced to 14 in. square with nine vertical bars on the first floor and to 10 in. by 12 in. with four vertical bars on the second floor, while other columns supporting structures on the roof measured 6½ in. by 12 in. The columns on the ground floor were calculated for a normal load of 340 tons each, those on the first floor for a load of 226 tons each, and those on the second floor for a load of 113 tons each. These loads represent pressures of about 1,950 lb., 2,520 lb., and 2,100 lb. per sq. in. respectively for the three portions of each column, or an average of about 2,200 lb. per sq. in. of cross-sectional area.

To afford additional support for the main beams, the tops of the columns were extended to form a bracket on either side with a projection of 18 in. and a depth of 10 in. close to the column. The reinforcement of these brackets consists of two ¾-in. diameter bars passing horizontally through the column, rising up at each end parallel to the under surface of the bracket and continuing into the concrete of the beams above.

After the columns had been built up to the first floor level and left to harden for about a week, the main and secondary beams were formed in timber moulds extending from column to column. The main beams, 12 in. wide by 18 in. deep, extend from end to end of each shed, tying the tops of the columns together and really constituting continuous girders.

The secondary beams, or joists, reach from column transversely across the building, forming panels 25 ft. by 22 ft., each of these rectangles being subdivided by three intermediate joists, supported at the ends by the main floor beams (see Fig. 130).

The reinforcement in each of the main beams comprises nine longitudinal bars in rows of three abreast and numerous stirrups, also three abreast, placed 6 in. apart along the beam. Half of the stirrups pass under the lowest bars and half over the uppermost bars. Fig. 133 contains two sections of a typical main beam, one taken near the supports and the other at the centre.

When the beam moulds had been erected and securely stayed the spaces between them were filled by timber panels laid level with the upper edge of the beam moulds, and the whole surface was coated with a layer of limewash before the commencement of concreting.

The first step in this operation was to spread a thin layer of concrete 1 in. thick along the bottom of the beam mould, and, after well ramming, to place the lower set of stirrups in position. These stirrups consist of twelve S.W.G. steel strip 2½ in. wide by 43 in. long, and when bent into U-form, the effective length was about 20 in., permitting the two ends of each stirrup to project about 3 in. through the top of the beam, the projecting ends being afterwards incorporated in the concrete of the floor slab.

The stirrups, three abreast in the width of the beam, were spaced 6 in. apart longitudinally, and inside them were laid three bars of the longitudinal reinforcement, the diameter of these bars being 1¾ in. Next came a layer of concrete sufficient to cover the bars, and over this were laid three 1¾-in. bars, bent up towards the ends, so as to provide suitably for resisting tensile stress developed in the upper part of the beam section, between the supports and the points of contrary flexure. More concrete was then deposited, entirely covering the bent bars, and three 1¼-in. diameter bars were laid over it. The upper stirrups were next adjusted over the top bars and pushed down into the wet concrete, these stirrups being made of 13 S.W.G. steel strip 1¾ in. wide. The total length of metal

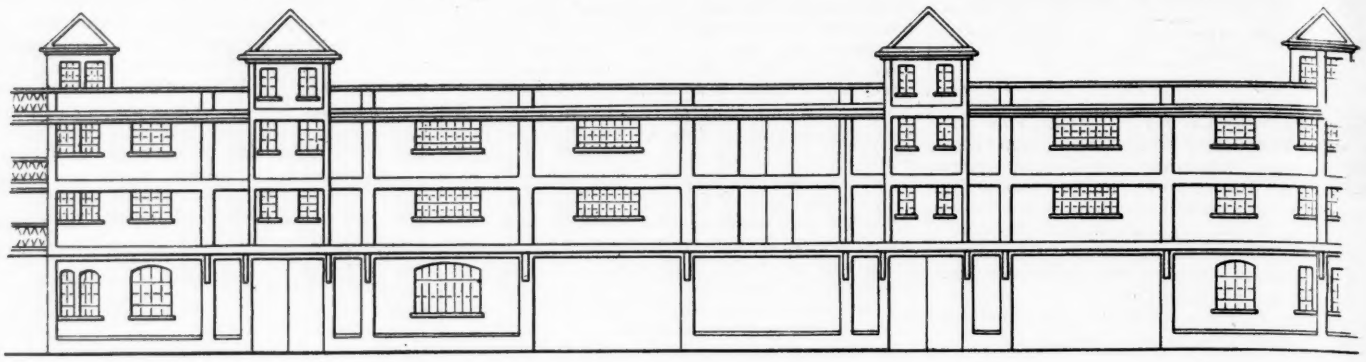

FIG. 129.

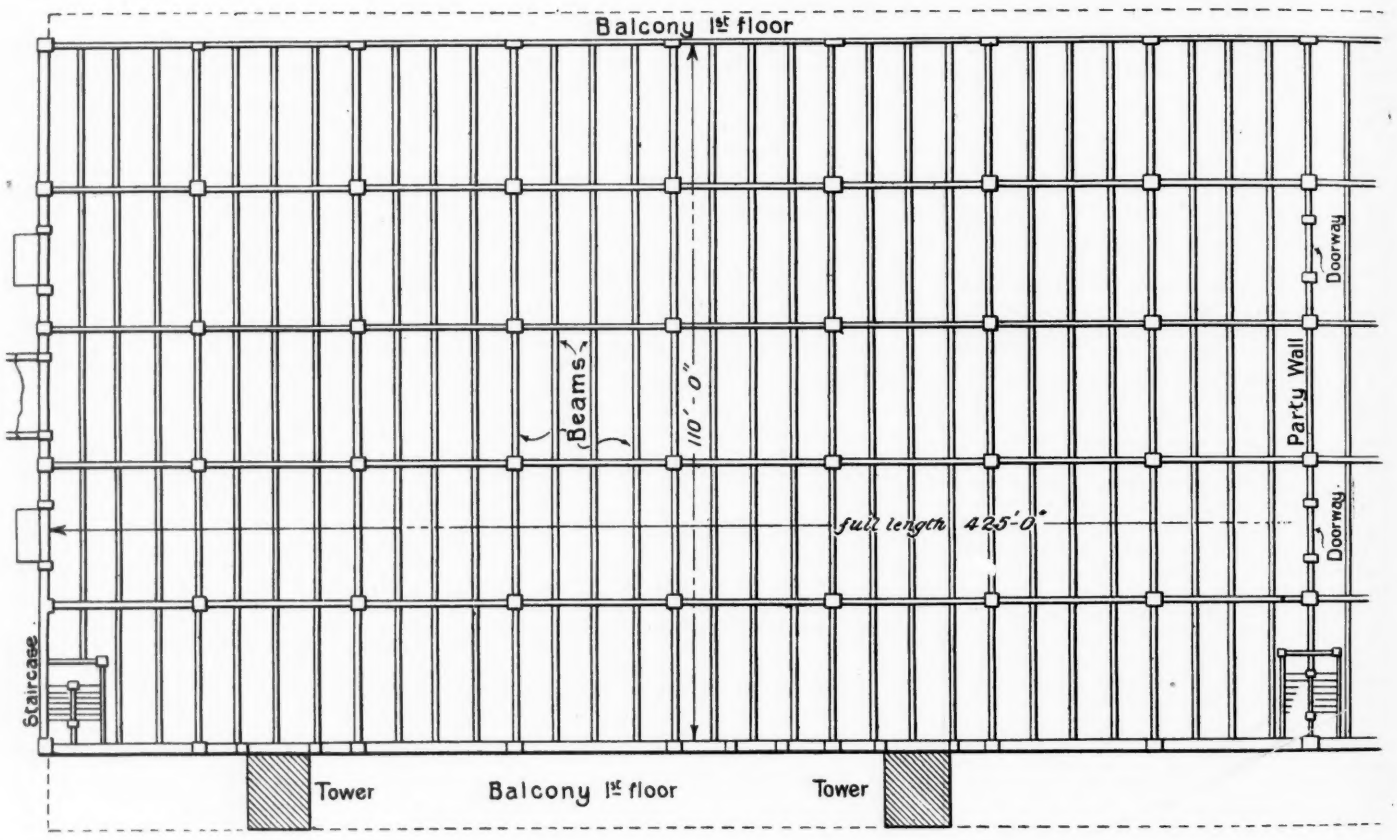

FIG. 130.

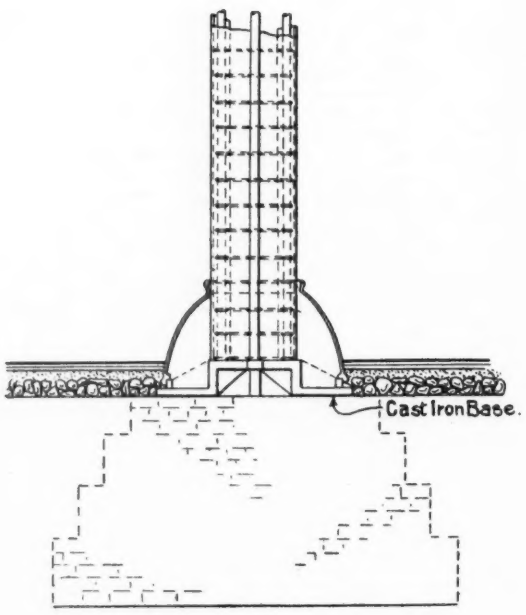

FIG. 131.

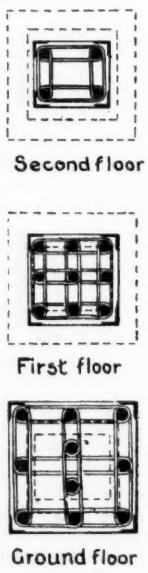

FIG. 132.

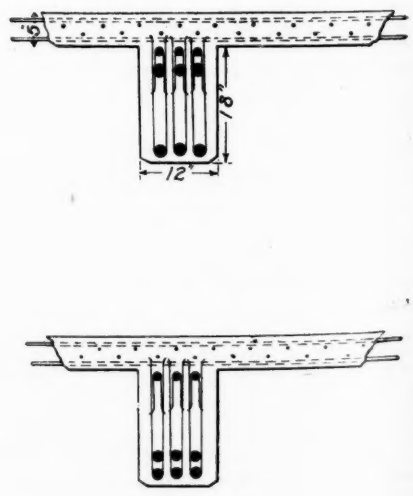

FIG. 133.

Illustrations to Student's Column.

in each stirrup was 19 in., giving an effective depth of about 8 in. The mould was finally filled up with concrete, and a period of four or five days was allowed for hardening before the addition of the floor slab.

A very similar course of procedure was followed in the construction of the secondary beams, which contain six bars of longitudinal reinforcement, four bars of 1¼ in. diameter near the bottom of the concrete, and two bars of ½ in. diameter near the top.

The ends of all the bars and stirrups were split and bent out, so as to afford secure anchorage, and the round bars were jointed together at places where they overlapped. The extent of the overlap varied from about 12 in. to as much as 30 in., according to the strain coming upon the construction.

GENERAL BUILDING NEWS.

ST. JOHN'S PRESBYTERIAN CHURCH, RUNCORN.—This church has been erected upon a site fronting Victoria-road and is connected with the existing school buildings which face York-street, entrances being provided from both streets. Accommodation is provided for about 560 adults, 500 on the ground floor, and sixty in the gallery over entrances. A cloakroom is arranged near the main entrances, and a vestry for minister's use at the chancel end of church. The pews are so arranged as to rise towards the rear, and radiate towards pulpit in order that everyone may see and hear without difficulty. The whole of the walls rest upon concrete foundations, and the floors are of wood block laid on concrete so that there may be no chance of dry rot or subsidence. The general design is late Gothic in character, and has a tower and spire to the right of main front. The buildings facing Victoria-road are of red Runcorn stone, and all the windows are filled with cathedral leadlights. The interior woodwork will be of pitch-pine, varnished. The contract, amounting to 3,500*l.*, has been carried out by Messrs. George Parker & Co., of Edge Hill; the joiners' work by Messrs. J. Paterson & Son, of Liverpool; from the design and under the superintendence of Mr. T. W. Cubbon, architect, of Birkenhead; Mr. Robert Harrop acting as clerk of works.

WESLEYAN CHURCH, EXETER. — The new Wesleyan church, erected in St. Sidwell's, Exeter, was opened on the 3rd inst. Messrs. F. J. Commin and W. H. Coles were the architects.

WESLEYAN CHURCH, CHORLEY.—The foundation-stones have just been laid of a new Wesleyan church in Eaves-lane, Chorley. The new building will have sitting accommodation for 321 adults, or a mixed congregation of 400 persons. The estimated cost is 2,300*l.* Mr. L. Fairclough, of Adlington, is the contractor, and Mr. W. H. Dinsley, Chorley, the architect.

RESTORATION OF TOWER OF COLN ST. DENY'S CHURCH.—Under the auspices of the Society for the Preservation of Ancient Buildings, a work of renovation entailing an expenditure of close upon 1,000*l.* has been carried out at this church. The work has been executed under the direction of the architect, Mr. William Weir, of Abingdon, Berks, and there has been no contractor, but workmen living in the village and neighbourhood were employed.

SCHOOLS, THURLESTON.—The foundation-stone of new church schools has just been laid at Thurleston, near Kingsbridge. The new schools will provide accommodation for seventy children. The architects are Messrs. Rowell, Sons, & Locke, Newton Abbot.

FREE LIBRARY, CRICCIETH, NORTH WALES.—The new free library at Criccieth was recently opened by Mr. John E. Greaves, Lord-Lieutenant of Carnarvonshire. The principal rooms are arranged on two floors. The ground floor of the building is of red Ruabon brick, and Talacre stone dressings, the upper part covered with rough-cast, with ornamental red brick projecting courses. The principal entrance is placed in the centre of the main front, and opens directly into a hall, on the left of which is the general reading-room, behind which and also opening out of the central hall is the lending library. There is also a ladies' reading-room, in the rear of which and opening out of the central hall is the staircase hall, with retiring-rooms, etc. On the first floor are the reference library, the committee-room, and the storeroom. Mr. David Evans, a local contractor, carried out the whole of the work from the designs of Mr. Rowland Lloyd Jones, the County Architect of Carnarvonshire.

SAVINGS BANK PREMISES, DUNDEE.—The new office for the Hilltown branch of the Dundee Savings Bank is now complete. The bank occupies a site at the Hilltown corner of Stirling-street, the entrance being at this point. It is built of red stone from Dumfriesshire, and is Elizabethan in character, with mullioned windows, the central feature being a round tower, with conical-slated roof, flanked by two ornamental gables. The building throughout is heated with hot water as well as by coal fires, and is fitted with electric light. The architects are Messrs. Johnston & Baxter, and the following are the contractors, under the superintendence of Mr. P. C. Barron:—Masons, A. & T. Craig; joiners, Charles Smith & Son; plumber, David Bremner; plasterer, James Laburn; painters, P. & A. Davie; slaters, Alexander & Thomson; carving, Alexander Neilson; heating, David Keay; wrought-iron work, Thomas Russell; strong-room, Chatwood's Patent Safe and Lock Company; electric installation, Lowdon Brothers.

GUARDIANS' OFFICES, BYKER.—The alterations to the relief station at the top of Byker Bank have now been completed. Mr. Arthur Stockwell was the architect, and Mr. R. Harbottle the builder.

PROPOSED BUILDINGS FOR THE ASTON GUARDIANS, BIRMINGHAM.—At a recent meeting of the Aston Board of Guardians, Mr. Doggett presented the minutes of a meeting of the Building Committee, remarking that they had considered the plans and estimates of the proposed new buildings. These included a new pavilion, half-pavilion, and places of worship for the Roman Catholics and Protestants. The estimates were:—New pavilion, 10,410*l.*; half-pavilion, 3,550*l.*; Roman Catholic chapel, 200*l.*; Protestant chapel, 2,560*l.*; architect and clerk of works, 850*l.* and 200*l.*; quantity surveyor, 250*l.*; furniture, 1,000*l.*; contingencies, 500*l.*; a total of 19,500*l.* Mr. Doggett moved the adoption of the estimates, and also that the plans be forwarded to London. After discussion, the motion was carried.

RESTAURANT, NEWCASTLE.—In the basement of Emerson-buildings, at the corner of Blackett-street, Newcastle, a new restaurant has been opened. The designs for the various rooms were prepared by Messrs. Simpson, Lawson, & Mayne, architects, of Newcastle.

ENLARGEMENT OF CRIPPLES' HOME, BOURNEMOUTH.—The Victoria Home for Crippled Children in Burnaby-road, Bournemouth, is now being enlarged. The additions, which are to the south-west side of the house, are to consist of a room 24 ft. by 16 ft., with doors leading from the old playroom, a sick-room, nurses' room, bathroom, and sanitary accommodation. The new structure will have only the one floor, and the roof is to be flat and asphalted. The erection will be of Bridgwater bricks, with Ham Hill stone dressings. The architect is Mr. Warman, of London, and the builders are Messrs. J. McWilliam & Son, of Westbourne.

HOSPITAL EXTENSIONS, SCARBOROUGH.—A new wing, which has recently been added to the Scarborough Cottage Hospital in Springhill, Seamer-road, was opened on the 26th ult. The addition consists of a dining-hall, two wards which accommodate eight beds each, with lavatories and bathrooms attached. The total cost, including furnishing, is estimated at 1,000*l.* The work has been carried out according to the plans of Mr. J. Caleb Petch, architect, by the following contractors:—Brickwork, Messrs. Hunter & Smith; joinery work, Mr. J. W. Plaxton; plumbing, Mr. R. Gough; painting, Mr. A. Briggs; ironwork, Mr. H. Pickup; and slating, Mr. Hardgrave.

INFIRMARY, LEIGH.—The foundation-stone of the Leigh Infirmary was laid on the 29th ult. The contract for the new building has been let to Mr. J. Cocker, of Walkden, for 13,500*l.* Mr. J. C. Prestwich, of Leigh, is the architect.

PRIMITIVE METHODIST MANSE, SHOTLEY BRIDGE.—On the 6th inst. the foundation-stones of a manse for the superintendent minister of the Shotley Bridge Primitive Methodist Circuit, to be erected on the new road on the Shotley Lodge estate, were laid. The building will cost about 800*l.*, and has been designed by Mr. William Barron, architect; the contractors being Messrs. Wm. Ayton & Sons, of Benfield-side.

STAINED GLASS AND DECORATION.

MORNINGSIDE, EDINBURGH.—A large stained-glass memorial window of four lights has been placed in St. Matthew's Church, Morningside, Edinburgh. The subject of the memorial, which consists of two centre lights and the vesica, is the "Incarnation of Our Lord." In the vesica there is a figure of an angel proclaiming the text, "The word was made flesh and dwelt among us." In the south light the subject is, "Christ Raising Lazarus," the third light represents "The Feeding of the Multitude," and the last "The Sending Forth of the Twelve." The window is from the studio of Messrs. Percy Bacon & Brothers.

MEMORIAL ORGAN, THURSTASTON.—An organ has been placed in Thurstaston parish church in memory of the late Mr. T. H. Ismay. The case of the instrument was designed by Mr. R. Norman Shaw, R.A., and the builders were Messrs. Henry Willis & Son.

SANITARY AND ENGINEERING NEWS.

WATERWORKS, ARBROATH.—New waterworks for Arbroath are being constructed. On the 2nd inst. another section of the contracts was started, and three separate contractors are now engaged in the operations. The section upon which work has now been commenced takes in the laying of the pipe track from the west end of the service reservoir at Colliston to the service reservoir at Framedrum, including the construction of the latter. The contract amounts to about 14,000*l.*, and the contractors for the section are Messrs. M'Laughlin, Anderson, & Mann, Glasgow. Messrs. Crouch & Hogg, C.E., Glasgow, are the engineers of the scheme. Messrs. Gibson are making good progress with their section of the contract from Melgund to Easter Marcus, and Messrs. Crawford have also accomplished a good part of the work between Easter Marcus and the Guynd. It is expected that work on the section between Colliston and Arbroath will be started next week. The contractor is Mr. John Bryce, Polmont, and this section of the work is estimated to cost about 11,000*l.*

PIER, FALMOUTH.—The new promenade pier at Falmouth was opened on the 5th inst. The total length of the pier is 310 ft., the portion nearest the town being of solid granite, with a superficial area of about 6,000 sq. ft. From that point the pier extends 200 ft., all being constructed of ferro-concrete work. It is supported by twenty-nine circular concrete pillars, finished on the top with capitals, with sunken ornamental discs, on which circular lamp-posts are fixed. The guard railings are of cast-iron, with ornamentations, and seats are provided on the deck. Accommodation for landing is provided to the extent of four flights of steps in the ferro-concrete pier, and three flights of granite steps in the inner work. The width of the outer pier is 36 ft. The end of the pier is rounded, and provision has been made in the construction for a further extension if necessary. The deck is of solid concrete, and there is no timber about the construction. The level of the deck is from 4 ft. to 4 ft. 6 in. above high-water mark. The entrance to the pier proper has been widened by setting back the new King's Hotel at the right of the entrance, making the whole width about 55 ft. The engineers of the scheme were Messrs. L. G. Mouchell (the English representative of the Hennibique's patent ferro-concrete construction) and W. H. Tresidder, Borough Surveyor.

SEWAGE SCHEME, PIXHAM, DORKING.—Major C. E. Norton, R.E., on behalf of the Local Government Board, held an inquiry at the Dorking Council Chamber on the 27th ult. into the application of the Urban Council for sanction to borrow 1,500*l.* for sewerage works in Pixham-lane. Among those present were Mr. G. Strachan, engineer for the scheme, and Mr. G. S. Mathews, Surveyor. Mr. Strachan said that it was proposed to sewer a portion of Pixham, commencing at Hazelbourne and ending at the outfall works, which, owing to the engineering difficulties, was not included in the original scheme for draining Dorking. Mr. Strachan further said that his scheme was to raise the sewage by means of ejectors, and deal with it at the present outfall works.

EXTENSION OF THE PARADE, BRIDLINGTON.—The extensions, which are at present being made to the parade at Bridlington, are estimated to cost 21,000*l.*, exclusive of certain buildings, which would include a concert-hall, and probably a *café*, the cost of which would be about 10,000*l.* The parade will be carried seaward 40 ft., and northward 212 ft. Mr. Ernest R. Matthews is the Borough Engineer.

PROPOSED DESTRUCTOR, BASFORD, NOTTINGHAM.—A Local Government Board inquiry was held at the Guildhall, Nottingham, on the 3rd inst., by Colonel A. J. Hepper, D.S.O., R.E., Inspector, into an application by the City Council for sanction to borrow 23,300*l.* for the provision of a refuse destructor and health depôt on land belonging to the Council, situated near Vernon-road, Basford; 845*l.* for the purchase of property for the widening of Hockley; and 3,000*l.* for the erection of a dormitory at the city lunatic asylum. Mr. A. Brown, the City Engineer, put in plans. He said that there was no house within a radius of 100 yds. of the proposed site of the destructor, with the exception of one belonging to the Corporation, and there were only twenty houses within a radius of 200 yds., while these were on the north side of the railway embankment. The chimney would be 160 ft. high, and there was no land on a level with the top within a distance of two miles. Evidence was also given by Mr. Brodie, City Engineer, Liverpool; Mr. Wike, City Engineer, Sheffield; and Mr. Cox, City Engineer of Bradford.

NEW BRIDGE OVER THE MOLE.—The Urban District Councils of Esher with the Dittons and Walton-on-Thames are about to erect a new steel bridge over the River Mole at Lammas-lane, near Esher, in place of the old cast-iron

structure, and have put the contract in the hands of Messrs. Archibald D. Dawnay & Sons, Ltd., and Messrs. Kavanagh & Co., of Surbiton, will carry out the builders' work. Mr. A. J. Henderson, A.M.I.C.E., the Engineer to the Councils, has designed the bridge and prepared all the plans.

FOREIGN.

FRANCE.—The "Société Nationale des Architectes de France" has chosen as the subject of its competition this year "Un Hôtel pour un Journal Quotidien."——M. Talbaurdeau has gained the first premium in the competition opened by the municipality of Chandellé for barracks for gendarmes.——The municipality of Pont-à-Mousson have opened a competition for French architects for the building of new schools and a meeting hall.——The jury in the competition for a new telegraph and telephone station at Lyons have awarded the first premium to MM. François Clermont and Eugène Riboud; the 2nd to M. Huguet, and the 3rd to M. Charles Meysson. The premiated architects are all natives of Lyons. ——The new maritime hospital at Villefranche, built from the designs of M. Bonifassi, has just been opened.——The municipal council of Amiens have opened a competition for a new theatre with a principal façade on the Rue des Trois Cailloux. A sum of 1,500,000 francs has been voted for the work.——M. Maugé has been appointed city architect of Fécamp.—— The municipality of Bethune has decided on the erection of a Hôtel de Sous-Préfecture on the site of the former city prison; the present Sous-Préfecture is to be transformed into a public library and museum.——M. Bentz, architect, of Nancy, has obtained the first premium in the competition at Vandœuvre for the erection of a group of schools and a new mairie. ——A new post and telegraph office is to be built at Rochefort-sur-Mer.——The municipality of Boulogne-sur-Mer has decided on the construction of a cirque and a Salle des Fêtes at a cost of 350,000 francs.——A convalescent hospital is to be built at Marseilles at an estimated cost of 1,400,000 francs.——The municipality of Privas have decided on the construction of a Hôtel de Ville which will also include the archives of the department and the Savings Bank. The cost is estimated at 350,000 francs.——Mr. James Stillman, of New York, has given to the Ecole des Beaux-Arts a sum of 500,000 francs, the interest of which is to be spent, under the direction of the Ecole authorities, in annual prizes to be given to French students.——A competition has been opened between the architects of the Departments of La Marne, L'Aube, Haute Marne, Meuse, Meurthe-et-Moselle, Ardennes, and Côte d'Or, for the building of a Savings Bank at Vitry-le-François.

GERMANY.—The Catholic church at Gross-Lichterfelde, near Berlin, designed by the architect, Professor Christian Hehl, is completed; the cost of the building amounted to 309,000 francs.——The "Red Cross" Hospital at Munich has been rebuilt by MM. Heilmann & Littmann, under the direction of the original architect, Professor Hocheder.——A Horticultural Exhibition is to be held at Darmstadt from August 9 to September 10, at which various gardens will be planned out on three different terraces.——The Castle of Vaduz, in Lichtenstein, is to be restored from plans by Herr Alois Gastrein.——In the competition for plans for an Evangelical church in Horburg, near Kolmar, three equal premiums have been awarded to the architects Herr Paul Hoffmann, of Strassburg; Herr Hans Hüring, of Bremen; and Herr Karl Winter, of Strassburg.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS. —Mr. H. W. Smith, auctioneer, estate agent, and surveyor, has removed his offices from 7, Featherstone-buildings, Bedford-row, to 6, Great James-street, Bedford-row, W.C.—— Messrs. Harris & Harris, quantity surveyors, have removed from 22, Surrey-street, to 9, John-street, Adelphi, W.C.——In consequence of the death of the late Mr. H. T. Northcroft, the business hitherto carried on by H. T. Northcroft, Son, & Neighbour, & H. T. Northcroft, Son, & Nicholson, will in future be carried on by the three surviving partners, Mr. Henry Northcroft, Mr. W. F. Neighbour, and Mr. Guy M. Nicholson, under the name of "Northcroft, Neighbour, & Nicholson" at 9, Regent-street, Waterloo-place.

WAR MEMORIAL, BROMSGROVE.—On the 4th inst. the Earl of Coventry, Lord-Lieutenant of Worcestershire, attended a special service at the Bromsgrove Parish Church and unveiled a memorial that has been placed in the sacred edifice by public subscription, to the memory of Bromsgrove soldiers who fell in the South African war. The memorial consists of a rectangular hammered brass plate, enriched with enamels, and mounted on a green marble slab. It is the design of Miss Amy Walford, of Bromsgrove School of Art.

RETIREMENT OF THE NEWCASTLE CITY ENGINEER. —Mr. F. J. Edge, the Newcastle City Engineer, is shortly to retire to enter into partnership with a Newcastle firm of consulting engineers.

SCOTTISH BUILDING TRADES FEDERATION.—The half-yearly meeting of the Executive of the Scottish Building Trades Federation was held in the Palace Hotel, Inverness, on the 1st inst., Mr. William M'Donald, President of the Federation, in the chair. The trades disputes in Glasgow, Edinburgh, and Aberdeen were considered, and it was reported that the dispute between the operatives and master joiners in Aberdeen had been settled, the employers' terms having been accepted. It was also reported that the Edinburgh bricklayers' dispute had been settled on terms satisfactory to the employers. The state of trade throughout the country was dull. It was resolved that uniform dates for renewal of by-laws affecting operatives should be adopted throughout the country. The Edinburgh and Aberdeen delegates suggested June 1 annually as a suitable date, but it was ultimately agreed that the fixing of dates should be left to each separate trade, uniformity for each branch of the building trade being all that was desired. A letter was received from the National Federation of Great Britain, suggesting that builders working outside their own district should be required to become members of any allied association existing in the locality of their work, and to conform to local rules and rates of wages. It was agreed further to consider the proposal at the autumn meeting of the Executive. The Executive were afterwards entertained to luncheon by the members of the Inverness and District Building Trades Federation.

INCORPORATED CHURCH BUILDING SOCIETY.— The eighty-seventh annual report of this Society shows an increase of nearly 2,000*l.* in income for 1904, as compared with 1903. The report refers, with great regret, to the death of Mr. F. C. Dobbing, who had been an earnest worker for and a liberal contributor to the funds of the Society. The past history of the Society shows that it has been instrumental in aiding in the erection of no less that 2,451 additional new churches, and in assisting in rebuilding, enlarging, or otherwise improving the accommodation in 6,379 other churches or consecrated chapels of ease. By these means more than 2,000,000 additional seats have been secured, by far the greater part of which are for the free use of the parishioners. The actual amount of money entrusted to the Society and used in making grants towards the objects named has reached 905,861*l.* In the course of the report, the Committee record their grateful thanks to the members of the Committee of Honorary Consulting Architects for the time and trouble they have spent on the work of examining and reporting upon the designs submitted to them at their monthly meetings. The following is a list of the chief contributions to the Society for 1904:—To the General Fund—Ecclesiastical Insurance Office, 300*l.*; Miss Margaret Collins, 200*l.*; Mrs. Richard Moss, 100*l.*; F. B., 10*l.* 10s.; Mr. W. D. Caröe, 10*l.* 10s.; F. C. D., 10*l.* 10s.; Mrs. Swinburne, 10*l.* 10s.; the Earl of Eldon, 10*l.*; Rev. H. Newton, 10*l.*; Rev. C. H. and Mrs. Williams, 10*l.*; Warner Fund, 9*l.* 16s. 7d. To the Mission Buildings Fund—Mr. Richard Foster, 100*l.*; Mr. H. W. Prescott, 100*l.*; Lieut-Colonel the Hon. G. H. W. Windsor-Clive, 50*l.*; Mr. James Hilton, 50*l.*; the Rev Canon J. Allen, D.D., 25*l.*; his Grace the Lord Archbishop of York, 20*l.*; the Earl Egerton of Tatton, 10*l.* 10s.; Mr. H. W. Mozley, 10*l.* 10s.; Mr. F. H. Rivington, 10*l.* 10s.; Mr. R. Hesketh Jones, 10*l.*; Mr. Athelstan Riley, 10*l.*; Warner Fund, 9*l.* 16s. 7d. The legacies received were:—Mr. Thomas Lord Lewington, 1,589*l.* 10s.; Miss L. C. Fenwick, 917*l.* 2s. 11d.; Mr. John F. France, 589*l.* 13s. 8d.; Mr. William Walter Slye, 250*l.*; Mr. Henry Edmund Charlesworth, 86*l.* 15s. 4d.

MONTAGUE-PLACE, RUSSELL-SQUARE.—All the houses, Nos. 1 and 2 excepted, on the south side of Montague-place, have now been pulled down in preparation for the new buildings which will be planned and designed by Mr. J. J. Burnet, A.R.S.A. Across the vacant site one now sees the block which contains the old reading-room—latterly used as a catalogue-room—and now serves as an annexe to the round reading-room and reference library. The new buildings will ultimately extend to Bedford-square and Bloomsbury-street on the west side and to Montague-street on the east side, the trustees of the Museum having been enabled, under an Act of 1895, to purchase the property from the ground landlord, the Duke of Bedford.

ROYAL NAVAL BARRACKS CHURCH, CHATHAM.— Mr. C. E. Skinner, of Chatham, contractor, has begun the church for which the plans and designs were prepared in the Works Department (London) of the Admiralty, and Mr. J. Brookes Hunt, M.Inst.C.E., Superintending Engineer of Chatham Dockyard, will supervise the building. The church, constructed of red brick, with stone dressings, consists of a nave 40 ft. wide, having an open timber roof, chancel, side chapel, baptistry, etc., and contains 1,000 seats.

CAPITAL AND LABOUR.

THE LOCK-OUT IN THE TYNESIDE BUILDING TRADE.—The employers concerned in the Tyneside building trade lock-out announced, on the 8th inst., their determination to advertise for men willing to work under the new conditions. The employers also, after a meeting held in the afternoon, stated that more and more builders are falling into line with them, and that since Saturday some 200 to 300 men had been added to the number of those paid off for refusing to work under the new conditions. An attempt at mediation is being made by Mr. Leeson, architect, of Newcastle, who has asked the secretaries of the various trade societies affected to meet him to discuss the situation.

Legal.

BRICKLAYER'S CLAIM UNDER THE WORKMEN'S COMPENSATION ACT.

THE case of Nicholls *v.* Bishop came before the Court of Appeal, composed of the Master of the Rolls and Lords Justices Mathew and Cozens-Hardy, on the 9th inst., on the plaintiff's appeal from the award of the Birmingham County Court judge, sitting as arbitrator under the Workmen's Compensation Act, 1897, in favour of the defendant.

The facts of the case were shortly as follows:—The plaintiff, a bricklayer, while in the employment of the defendant in January, 1904, injured his hand as the result of an accident. A fortnight after the accident the plaintiff went to the defendant's office and asked a clerk there about his compensation. The clerk told the plaintiff that it was impossible to settle the compensation then, and that he was to call again in a few days' time. This the plaintiff did, and then the clerk told him that the compensation had been fixed at one-half his wages. Plaintiff was paid this sum until April 13, when he was told that the compensation would cease, on the ground that he was fit to go to work again. Plaintiff tried to do some work, but could not, and afterwards he had to go into the hospital and have one or two of his fingers amputated. On April 29 a letter was written on the plaintiff's behalf to the defendant, stating that plaintiff had sustained an injury to his hand by a girder rolling over on it while in the defendant's service, and that he claimed compensation under the Act. The plaintiff was paid for his work by the week, but only for the number of hours that he actually worked, and on the Saturday that the accident happened plaintiff, on going to the office for his wages, was asked by the foreman to assist some labourers to remove some girders which were lying in the road to the schools which were being erected. Plaintiff did so, and in this way met with the accident, in respect of which compensation was claimed. The learned County Court judge decided that no proper claim for compensation had been made by the plaintiff within the terms of the Act, and, secondly, that the accident did not arise out of, or in the course of, the plaintiff's employment. Hence the present appeal of the plaintiff.

Mr. Chester Jones appeared for the appellant, and Mr. Shakespeare for the respondent.

In the result their lordships dismissed the appeal, holding that there was evidence on which the learned County Court judge could find that the accident did not arise out of, or in the course of, the plaintiff's employment. On the other question raised their lordships said it was not necessary to give any decision.

RAMSGATE PIER DISPUTE.

MESSRS. CARTER & SONS, builders and contractors, of Richmond-road, Earl's Court, who have recently been carrying out extensive repairs to the Ramsgate pier pavilion, were sued before Deputy-Judge Clement Lloyd, at the Brompton County Court, on Tuesday, by Alfred Boulter, of 83, Fernhead-road, Paddington, under whose direction the work was done.

The claim was for 7*l.* 4s. 10d., said to be the balance due for piecework in connexion with the repair of three large domes.

Plaintiff said that he had received 56*l.* 7s. 11d. for the defendant firm, but that they still owed him the amount he claimed. He certainly signed a contract agreeing to do the work under certain conditions, but he did not recognise it in the one produced. He was under the impression that there were only a few lines on the document to which he affixed his signature, and that there was a blank space over his name.

The judge: I don't think you would have signed your name leaving a space blank.

In answer to the defendants' solicitor, plaintiff owned that he had had a "little trouble" with the London Zinc Workers' Society, and had, in fact, been expelled from membership on account of sub-contracting for the work in question. It was against the rules of the Society, he explained, for a member to sub-contract for work.

A member of the defendant firm said that, according to the plaintiff's contract, all three domes were to be completed under piece-work conditions. The amount now claimed was, in reality, for daywork which had already been paid for. Plaintiff did not finish the front dome in accordance with his contract.

His honour found for the defendants, and allowed costs.

PATENTS OF THE WEEK.

APPLICATIONS PUBLISHED.*

625 of 1904.—W. H. BEANES and H. WALTON: *Hot-water Heating Apparatus.*

Hot-water heating apparatus, wherein the heating liquid can be automatically circulated in a pulsating manner at predetermined intervals by causing steam generated in the boiler of the system to act upon and force heating liquid from a displacement chamber either directly or through the boiler, into a delivery portion of the circulating conduit, whilst the return portion of the conduit is shut off from such chamber and boiler, and as soon as a predetermined quantity of steam has accumulated in the said chamber and a corresponding volume of heating liquid has entered the delivery portion of the circulating conduit, causing the steam to enter a condenser and be condensed, so that in consequence of the reduction in pressure thus produced, cooled return water will flow into the boiler and displacement chamber whilst the delivery portion of the circulating conduit is shut off therefrom, these operations taking place in succession as long as steam of sufficient pressure is generated in the boiler.

8,561 of 1904.—W. PRATT: *Window Fasteners.*

The window, constructed according to this invention, consists essentially of two curved members sliding on one another and pivoted respectively, on opposite sashes, in such manner that the only means of releasing same is by turning the larger or inner member on its pivot in one direction. The first member, or fastener proper, is preferably pivoted on a plate, fixed to the inner or lower sash, and provided with a knob at its one end, whilst the other end is adapted to enter a recess or groove formed by an overhanging flange of another plate fixed to the opposite sash. The second member or guard-piece pivoted on the outer plate also works side by side with the fastener in the same groove, and is locked therein by the fastener on the completion of the closing movement of the latter. It is a feature of this construction that the two sashes can be forced apart so as to leave a small opening or air space between them, without permitting any looseness or rattling of the windows, this being effected by the adjustment of the length of the two curved members, or of the inner one only.

10,222 of 1904.—W. PURCOCKS: *Metal Casements.*

This invention relates to metal casements, characterised by a frame of channel or other similar section, an outer casement hinged or pivoted thereto, and an inner casement hinged to the outer casement, both casements being provided with flanges so arranged that the double casement is free to open outwards, and the inner casement inwards, in such a manner that the whole when closed forms a double seal to the joints, in combination with means for fastening both casements together and to the frame.

23,851 of 1904.—C. FAIRBANK: *Sash Frames.*

The inside linings and architraves of sash frames, according to this invention, are formed in one piece instead of the architraves being fixed in the usual way.

25,529 of 1904.—W. MANLEY: *Lavatory Basins, Baths, and the like.*

This invention relates to lavatory basins, baths, and the like, and has for its object to provide a lavatory basin superposed upon a bath without taps or tap holes, but supplied with hot or cold water from a geyser, which can be fixed over the basin, the basin being provided with a connecting waste-pipe above the bath waste, which pipe is detachable when the bath is required, the bath being filled through the basin. In carrying the invention into effect a lavatory hand basin is provided superposed above the foot of the bath and mounted in a frame fitted upon the edge of the bath, and provided with a geyser advantageously fixed above the basin by which a supply of hot water may be admitted to the basin. A pipe is provided to connect the basin to the waste-pipe of the bath, which pipe is detachable. When the bath is to be used, this pipe is detached, and the plug replaced, the bath being filled through the basin.

1,273 of 1905.—O. SCHURICH: *Building Slab for Walls and Ceilings.*

A building slab of gypsum, cement, clay, or the like, for walls and ceilings, characterised in that the lateral faces of the slab are provided with longitudinal, dove-tailed shape middle and corner grooves and with transverse semi-circular grooves, which, when erecting the wall by joining each two slabs together, are filled up with a rapidly-hardening material such as moistened plaster of Paris, cement, or the like for the purpose of obtaining an intimate connexion between the slabs, and of preventing them from being displaced in the horizontal or vertical direction.

1,964 of 1905.—A. SIDEBOTTOM and RUDD & CO., LTD.: *Chimney Cowls, Ventilators, or like Devices.*

A chimney cowl, ventilator, or like device, consisting of a tubular portion provided with a contracted truncated conical or pyramidal portion at its upper end having an exit hole of less diameter than the main shaft of the ventilator, and a hood whose lower end is located a little distance above the outlet of the truncated conical or pyramidal portion, and having its external diameter smaller than that of the main shaft of the ventilator, whilst its internal diameter is larger than the exit holes in the main shaft.

2,168 of 1905.—G. HARRISON (Erste Schattauer Tonwarenfabriks-Actien-Gessell-Schaft): *Device for Use in the Manufacture of Ornamented or Figured Plates or Tiles of Cement, Clay, or like material.*

A colour-measuring and filling or charging device for use in the manufacturing of ornamented or figured plates, or tiles of cement, clay, or the like, consisting, for each colour, of two plates enclosing a slide, which plates are provided with openings corresponding to the hollow spaces of the stencil to be filled, and of which openings those of the upper plate simultaneously forming measuring chambers for the colour which, after adjustment of the device relatively to the stencil, enclose in the press mould and the drawing out of the slide, falls into the corresponding hollow spaces of the stencil.

2,240 of 1905.—S. VON MROKOWSKI: *Apparatus for Outside Lath Blinds.*

A device for operating the swinging guiding frames of outside blinds, consisting of a rotatable rod which, at the lower end, is furnished with a suitable operating gear adapted to be manipulated in the room, and an eccentric upon the rod capable, when rotated, of effecting a displacement of the guide frame outward or inward, a stud on said rod which, when the frame is in a perpendicular or closed position, engages a slotted tongue fixed on to the frame and prevents the frame from being displaced from the outside, projections integral with said eccentric or cam adapted to operate and adjust the frame and to fix the blind in the desired position.

11,384 of 1904.—J. TITLEY: *Wood Blocks for Paving, and in the Machinery for Manufacturing the same.*

Wood blocks for paving, characterised by forming a block of a number of sections or parts which are built up and secured together by forming spike-holes in the sides of the opposite section or sections, inserting spikes in the holes of one side, and then clamping the parts or sections together until a block is formed of the required size.

13,203 of 1904.—J. W. TAYLOR: *Fireplaces and Hearths used in Private Houses, Offices, Public Buildings, and the like.*

A fireplace and hearth, consisting of a recess in the hearth with a sloping front, a fire-grate arranged above such recess about level with the hearth, the fire-grate being in two halves so that each half may be turned up, and used in conjunction with or without duplicate ash-pans, a fireclay back and a slab of fireclay arranged to slope from its lower edge from the front of the fireplace to the back, a flue arranged behind the sloping slab of fireclay, and a damper or soot door in front of the inclined slab of fireclay to facilitate the cleaning of the chimney.

14,292 of 1904.—H. MILLS: *Scaffolding for Use in Building, and similar operations.*

Scaffolding, consisting in two sets of standards or uprights arranged at the opposite ends of any space or surface to be operated upon, each of such standards being attached at bottom to suitable supporting legs or to a base, and having adjustably mounted thereon a frame or bearer provided with means to receive one end of a supporting board placed preferably edgewise thereon, and on which is or are placed a cross board, or boards constituting a platform for workmen and their tools or materials.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

PUBLISHER'S NOTICES.

Nat. Tel., 6113, Gerrard. Telegrams, "The Builder, London."

THE INDEX (with TITLE-PAGE) for VOLUME LXXXVII. (July to December, 1904) was given as a supplement with the issue for January 14 last.

CLOTH CASES for Binding the Numbers are now ready, price 2s. 6d. each; also

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Advertisements for the current week's issue are received up to THREE o'clock p.m. on THURSDAY, but "Classification" is impossible in the case of any which may reach the Office after HALF-PAST ONE p.m. on that day. Those intended for the Outside Wrapper should be in by TWELVE NOON on WEDNESDAY.

ALTERATIONS IN STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same must reach the Office before TEN o'clock on WEDNESDAY MORNING.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, etc., left at the Office in reply to advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

PERSONS advertising in "THE BUILDER" may have *Replies addressed to the Office*, Catherine Street, Covent Garden, W.C., *free of charge*. Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage. Unused stamps are returned to advertisers the week after publication.

AN EDITION Printed on THIN PAPER, for FOREIGN and COLONIAL CIRCULATION, is issued every week.

READING CASES { NINEPENCE EACH. By post (carefully packed) 1s.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 1.—By FISHER & MURCH.

Sunbury, Middlesex.—4, Dorian-villas, u.t. 92 yrs., g.r. 4*l.* 10s., p.	£275

By WILLIAM HOLLIS.

Finchley.—11, Grosvenor-rd., u.t. 95 yrs., g.r. 7*l.* 10s., e.r. 45*l.*	460
Brownlow-rd., "Fairford" and "The Retreat," f., y.r. 68*l.*	910

By WILLIAM HOUGHTON.

Bournemouth, Hants.—Branksome Wood-rd., "Fern Brake," and 1 acre, f., p.	2,975
Surrey-rd., "The Holme," f., y.r. 110*l.*	1,750
Bishop's Waltham, Hants.—"Locks Farm," 254 a. 1 r. 3 p., f., y.r. 200*l.*	6,520
Hampreston, Dorset.—"Morley Cottage," and 7 acres, f., y.r. 36*l.*	650
Enclosure of building land, 4 acres, f.	120

By MAY & ROWDEN.

Holborn.—12, Theobald's-rd., u.t. 34 yrs., g.r. 40*l.*, e.r. 328*l.*	1,660
Harrow, Middlesex.—Middle-rd., f.g.r. 7*l.*, reversion in 6 yrs.	420
Crown-st., "Walker's Coffee House," f., q.r. 20*l.*	345

By WILKINSON, SON, & WELCH (at Brighton).

Brighton.—71, Beaconsfield-villas, f., p.	1,025
7, West-st. (a.), f., y.r. 210*l.*	4,485
Lindfield, Sussex.—High-st., "Pierpoint House," f., y.r. 90*l.*	1,450

May 2.—By DEBENHAM, TEWSON, & CO.

Hayes, Middlesex.—1 and 2, Holly-villas, area 2 a. 1 r. 10 p., f., p.	1,820

By FREDK. WARMAN.

Caledonian-road.—No. 557, u.t. 37 yrs., g.r. 7*l.*, e.r. 55*l.*	400
Holloway.—36, 38, and 42, Sussex-rd., u.t. 47¼ yrs., g.r. 15*l.*, y.r. 102*l.*	810
Canonbury.—53, Grosvenor-rd., u.t. 44¼ yrs., g.r. 8*l.* 10s., e.r. 60*l.*	495
Haggerston.—29, 31, and 33, Suffolk-rd., u.t. 40 yrs., g.r. 9*l.*, w.r. 117*l.*	690
Walthamstow.—11 and 13, Clacton-rd., f., w.r. 42*l.* 18s.	335

By WATERER & SONS.
Chertsey, Surrey.—"Dumpsey Eyot," 2 a. 3 r. 19 p., f. £320

By MONTAGU HOLMES & SONS.
Plumstead, Kent.—Villas-rd., f.g. rents 57*l.*, reversion in 10½, 15½, and 20½ yrs. 2,135
Ann-st., f.g. rents 122*l.*, reversion in 10½ and 21½ yrs. 5,380
Robert-st., f.g. rents 51*l.*, reversion in 10½ and 20½ yrs. 2,005
Earl-st., f.g. rents 35*l.* 14s., reversion in 20½ and 30½ yrs. 1,080
Elm-st., f.g. rents 20*l.* 16s., reversion in 20½ and 23½ yrs. 740
Station-rd., f.g. rents 14*l.*, reversion in 20½ yrs. 585
Griffin-rd., f.g. rents 7*l.* 10s., reversion in 30½ yrs. 270
Orchard-rd., f.g. rents 9*l.* 4s., reversion in 19½ and 25½ yrs. 355
Walmer-rd., f.g. rents 46*l.*, reversion in 20½ yrs. 1,760
Glyndon-st., f.g. rents 11*l.* 10s., reversion in 10½ and 20½ yrs. 475
Park-rd., f.g. rents 23*l.*, reversion in 20½ yrs. 900

May 3.—By BAKER & CO.
New Malden, Surrey.—Kingston-rd., "Bramley Lodge," u.t. 47 yrs., g.r. 20*l.*, p. 300

By BEARD & SON.
Bayswater.—1, Richmond-rd. (s.), f., y.r. 80*l.* 1,610

By COLLIER & BOWDICH.
Camden Town.—Camden-rd., etc., i.g. rents 21*l.* 5s., u.t. 29½ yrs., g.r. nil 315
Lyme-ter., etc., i.g. rents 26*l.*, u.t. 29½ yrs., g.r. nil 360

By W. A. ELLIS.
Chelsea.—8, 10, and 12, Ovington-sq., u.t. 20 yrs., g.r., etc., 27*l.* 3s., y.r. 460*l.* 4,300
18 and 20, Ovington-gdns., u.t. 20 yrs., g.r. 19*l.*, y.r. 200*l.* 1,560
36 and 37, Carlyle-sq., u.t. 49 yrs., g.r., etc., 18*l.* 18s., y.r. 165*l.* 1,840
40 and 41, Carlyle-sq., u.t. 30 yrs., g.r., etc., 16*l.* 16s., y.r. 146*l.* 1,510

By FOSTER & CRANFIELD.
Hammersmith.—259, Goldhawk-rd., u.t. 50 yrs., g.r. 6*l.*, y.r. 60*l.* 750
Putney.—71 and 73, Lower Richmond-rd., u.t. 46½ yrs., g.r. 13*l.* 10s., y.r. 72*l.* 530

By HOBSON, RICHARDS, & CO.
Stamford-hill.—Nos. 150 to 168 (even), f.g. rents 130*l.*, reversion in 65 yrs. 2,900
Nos. 172, 174, and 176, f.g. rents 52*l.*, reversion in 65 yrs. 1,190
No. 148, f.g.r. 40*l.* 12s., reversion in 65 yrs. 1,110
Ravensdale-rd., f.g. rents 460*l.*, reversion in 65 yrs. 10,015
Rookwood-rd., f.g. rents 122*l.*, reversion in 65 yrs. 2,690
Egerton-rd., f.g.r. 14*l.* 8s., reversion in 91 yrs. 340

By HUMBERT & FLINT.
Haverstock-hill.—Nos. 93 and 95 (s.), u.t. 59 yrs., g.r. 16*l.*, y.r. 200*l.* 3,100

By MOSS & JAMESON.
Edgware-road.—50, Queen-st., f., w.r. 83*l.* 4s. 940
Portman-square.—3, 4, and 5, King's-pl., u.t. 22 yrs., g.r. 30*l.*, w.r. 243*l.* 2s. 1,175
14, King's-pl., u.t. 18 yrs., g.r. 25*l.*, w.r. 79*l.* 6s. 280
Hyde Park.—51, Bryanston-st., u.t. 16 yrs., g.r. 12*l.*, e.r. 65*l.* 475
Barnsbury.—51, 53, and 63, St. Clement-st., f., w.r. 163*l.* 16s. 1,300
Hornsey.—83 and 85, Lausanne-rd., u.t. 80 yrs., g.r. 13*l.*, y.r. 68*l.* 665
35, Effingham-rd., u.t. 80 yrs., g.r. 5*l.* 5s., y.r. 30*l.* 285
8, 16, 18, and 22, Fairfax-rd., u.t. 80 yrs., g.r. 21*l.*, y.r. 113*l.* 1,010

May 4.—By H. J. ELLIS & SONS.
Bethnal Green.—24, Robinson-rd. (s.), u.t. 48½ yrs., g.r. 5*l.*, y.r. 35*l.* 380
30, Russia-la., u.t. 48½ yrs., g.r. 2*l.*, w.r. 33*l.* 16s. 305
Limehouse.—134, Salmon's-la. (s.), f., y.r. 35*l.* 630
130, Salmon's-la., and 1, Notgrove-st. (s.), f., w.r. 52*l.* 480
3 and 5, Notgrove-st., f., w.r. 41*l.* 12s. 390
Bethnal Green.—47 to 55 (odd), Vyner-st., u.t. 41½ yrs., g.r. 9*l.* 15s., w.r. 91*l.* 655
Islington.—11, Hardinge-st., u.t. 26 yrs., g.r. 6*l.*, e.r. 36*l.* 228
Homerton.—79, Oriel-st., u.t. 70½ yrs., g.r. 4*l.* 10s., w.r. 31*l.* 4s 225

By CLARKE & CO.
Harrow, Middlesex.—10, Springfield-rd. (s), f., y.r. 45*l.* 560

By C. RAWLEY CROSS & CO.
Notting Hill.—127, Portland-rd. (s), u.t. 35½ yrs., g.r. 8*l.*, y.r. 40*l.* 220

By LEOPOLD FARMER & SONS.
Kingsland.—31, Huntingdon-st., u.t., u.t. 64 yrs., g.r. 8*l.* y.r. 42*l.* 410
Bethnal Green.—14 and 16, Bonnor-rd., u.t. 39½ yrs., g.r. 4*l.*, w.r. 74*l.* 18s. 580
Islington.—25, Ecclesbourne-rd., u.t. 37 yrs., g.r. 5*l.*, y.r. 34*l.* 330
Walthamstow.—Chestnut-av., f.g.r. 4*l.* 4s., reversion in 88 yrs. 105
Victoria Park.—61 to 71 (odd), Felstead-st., u.t. 87 yrs., g.r. 39*l.*, y.r. 156*l.* 850

By IZARD & IZARD.
Snaresbrook.—Chigwell-rd., "The Lodge," f., y.r. 75*l.* 1,170

By NEWBON, EDWARDS, & SHEPHERD.
City-road.—13, Westmoreland-pl., with factory, f., y.r. 100*l.* 1,570
Barnsbury.—Crossley-st., f.g. rents 44*l.* 2s., reversion in 76 yrs. 1,110
Canonbury.—41, Canonbury-rd (with workshop), u.t. 13½ yrs., g.r. 5*l.* 4s., y.r. 50*l.* 255
Wandsworth-road and Devonshire-road.—I.g. rents 100*l.* 16s., u.t. 29½ yrs., g.r. 26*l.* .. 1,090
Islington.—Brooksby-st., etc., i.g. rents 264*l.* 10s., u.t. 3¾ yrs., g.r. 145*l.* 10s. 310
51, Cloudesley-rd., u.t. 12 yrs., g.r. 13*l.*, y.r. 30*l.* 135

By C. C. & T. MOORE.
Stepney.—28, Halley-st., and 9, Ebenezer-pl, f., w.r. 40*l.* 6s. £325
79 and 81, Old Church-rd., f., w.r. 36*l.* 8s. 280
Ponders's End.—1, Glenthorn-ter. (with off licence), f., y.r. 50*l.* 1,300

By STIMSON & SONS.
Brixton.—33, Millbrook-rd., u.t. 16 yrs., g.r. 7*l.*, w.r. 52*l.* 150
Walworth.—57, Carter-st., u.t. 40½ yrs., g.r. 5*l.* 15s. 6d., y.r. 38*l.* 350
33, Lorrimore-sq., u.t. 40½ yrs., g.r. 6*l.*, y.r. 36*l.* 420
Kennington.—32, Hanover-gdns., u.t. 40 yrs., g.r. 8*l.*, e.r. 38*l.* 290
Willesden.—Conley-rd., f.g. rents 65*l.* 2s., reversion in 84 yrs. 1,530
Dulwich.—205, Upland-rd., and 2, Crebor-st. (s.) u.t. 64½ yrs., g.r. 7*l.*, p. 280
Catford.—Hawstead rd., f.g. rents 25*l.*, reversion in 85 yrs. 600

By C. C. TAYLOR & SON.
Mile End.—22, 24, and 26, Buckhurst-st., f., w.r. 85*l.* 16s. 710
87 and 89, Cambridge-rd. (site of), f. 475

By WALTER VINCENT.
East Ham.—29, 31, and 33, Hartley-av., f. w.r. 85*l.* 16s. 810

May 5.—By BLAKE & CARPENTER.
Croydon.—Lower Addiscombe-rd., "Cook's Farm," 24 a. 2 r. 0 p., f. 14,300
Lower Addiscombe-rd., "Blackhorse Farm." 26 a. 2 r. 31 p.; also "The Grotto," f. 9,500

By B. R. BOSTOCK.
East Ham.—3 and 5, Elizabeth-rd., f., w.r. 62*l.* 8s. 560
67, 69, 71, and 83, Oakfield-rd., f., w.r. 76*l.* 14s. 650
Leytonstone.—Grove-rd., f.g.r. 15*l.*, reversion in 72½ yrs. 370

By ELSWORTH & KNIGHTON.
South Kensington.—9, Evelyn-gdns., u.t. 63 yrs., g.r., etc., 43*l.* 5s., p. 2,000

By FISHER, STANHOPE, & DRAKE.
Tottenham.—28, Vicarage-rd., f., e.r. 28*l.* 345

By HOLLIDAY & STANGER.
Streatham.—70, Buckleigh-rd., u.t. 78 yrs., g.r. 7*l.* 10s., p 370
1, Barrow-rd., u.t. 73½ yrs., g.r. 7*l.* 7s., p... 350

By MARK LIELL & SON.
Wapping.—51, Great Hermitage-st., f., w.r. 41*l.* 12s. 310
Bow.—411, Old Ford-rd., a freehold corner building site, area 26,300ft. 2,700
Candy-st., f.g.r. 25*l.*, reversion in 66 yrs. .. 600
Leytonstone.—Newport-rd., 16 freehold building plots 905
Leyton.—3, 5, 7, and 9, Sunnyside-rd., f., w.r. 104*l.* 1,030
Poplar.—117, St. Leonard's-rd. (s), u.t. 34 yrs., g.r. 2*l.* 18s., y.r. 30*l.* 200
Bromley-by-Bow.—57, Orwell-rd., u.t. 69½ yrs., g.r. 4*l.*, w.r. 28*l.* 12s. 250

By NOKES & NOKES.
Homerton.—1A, Church-rd. (s), u.t. 61½ yrs., g.r. 6*l.*, y.r. 34*l.* 880
Poplar.—301, Manchester-rd., u.t. 45 yrs., g.r. 5*l.*, w.r. 20*l.* 16s. 115

By TOWERS, ELLIS, & CO.
Bayswater.—106, Ledbury-rd., u.t. 41½ yrs., g.r. 8*l.* 8s., y.r. 50*l.* 420
Fulham.—Stanley-rd., i.g.r. 20*l.*, u.t. 49 yrs., g.r. 150
King's-rd., i.g.r. 20*l.*, u.t. 49 yrs., g.r. 5*l.* .. 260
Sotheron-rd., i.g.r. 33*l.*, u.t. 49 yrs., g.r. 10*l.* 375

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; p. for possession; e.r. for estimated rental; w.r. for weekly rental; q.r. for quarterly rental; y.r. for yearly rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; la. for lane; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; av. for avenue; gdns. for gardens; yd. for yard; gr. for grove; b.h for beerhouse; p.h. for public-house; o. for office; s. for shops; ct. for court.

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MEETINGS.

FRIDAY, MAY 12.

Royal Institution.—Professor E. Fox Nichols on "The Pressure Due to Radiation." 9 p.m.

Royal Sanitary Institute.—The Institute Dinner, Prince's Restaurant, Piccadilly. 7 p.m.

SATURDAY, MAY 13.

Northern Architectural Association. — Student's Sketching Club Excursion.

Junior Institution of Engineers.—Visit to the Dorking Water, Gas, and Electricity Works. Train leaves Cannon-street at 1.30 p.m.

Incorporated Association of Municipal and County Engineers.—Midland District Meeting to be held at Market Harborough.

MONDAY, MAY 15.

Royal Institute of British Architects.—"Sculpture in its Relation to Architecture," by Messrs. Alfred Gilbert, R.A., T. Stirling Lee, W. Reynolds Stephens, and Professor Lanteri. 8 p.m.

Surveyors' Institution.—Mr. J. D. Wallis on "The Licensing Act, 1904: with Special Reference to the Questi n of Compensation and Monopoly Value." 8 p.m.

Society of Arts (Cantor Lectures).—Mr. H. W. Ravenshaw on "The Uses of Electricity in Mines," I. 8 p.m.

TUESDAY, MAY 16.

Society of Arts (Applied Art Section).—Mr. H. R. H. Hall, M.A., on "Excavation of the Oldest Temple at Thebes." 8 p.m.

WEDNESDAY, MAY 17.

Institute of Sanitary Engineers, Ltd.—Examination and Literary Committee at 3.30 p.m. Finance Committee at 5 o'clock p.m. Council Meeting at 7 o'clock p.m.

Builders' Foremen's and Clerks of Works' Institution.—Ordinary Meeting of the Members. 8 p.m.

Society of Arts—Mr S. C. Phillips on "The Use of Wood Pulp for Paper Making." 8 p.m.

THURSDAY, MAY 18.

Architectural Association.—Members' Dinner, Criterion Restaurant, Piccadilly Circus. 7 p.m.

Royal Institution.—Professor Sir J. Dewar on "Flame." III 5 p.m.

Society of Antiquaries.—8.30 p.m.

SATURDAY, MAY 20.

Edinburgh Architectural Association.—Visit to Dundee under the auspices of the Dundee Institute of Architecture.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks.	1 10 0	per 1000 alongside, in river.	
Rough Stocks and Grizzles	1 6 6	"	"
Facing Stocks ...	2 2 0	"	"
Shippers	2 2 0	"	"
Flettons	1 7 0	"	at railway depôt.
Red Wire Cuts ...	1 14 0	"	"
Best Fareham Red	3 12 0	"	"
Best Red Pressed Ruabon Facing	5 0 0	"	"
Best Blue Pressed Staffordshire ...	4 2 6	"	"
Do. Bullnose	4 7 6	"	"
Best Stourbridge Fire Bricks.....	4 0 0	"	"
GLAZED BRICKS.			
Best White and Ivory Glazed Stretchers	12 0 0	"	"
Headers	11 0 0	"	"
Quoins, Bullnose, and Flats.....	16 0 0	"	"
Double Stretchers	19 0 0	"	"
Double Headers...	16 0 0	"	"
One Side and two Ends	19 0 0	"	"
Two Sides and one End	20 0 0	"	"
Splays, Chamferred, Squints	20 0 0	"	"
Best Dipped Salt Glazed Stretchers, and Header	12 0 0	"	"
Quoins, Bullnose, and Flats.....	14 0 0	"	"
Double Stretchers	15 0 0	"	"
Double Headers...	14 0 0	"	"
One Side and two Ends	15 0 0	"	"
Two Sides and one End	15 0 0	"	"
Splays, Chamferred, Squints	14 0 0	"	"
Second Quality White and Dipped Salt Glazed	2 0 0	"	less than best.

	s. d.	
Thames and Pit Sand.....	7 0	per yard, delivered.
Thames Ballast.....	5 9	" "
Best Portland Cement	27 0	per ton, "
Best Ground Blue Lias Lime	20 0	" "

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime.....12s. 0d. per yard, delivered.
Stourbridge Fireclay in sacks 27s. 0d. per ton at rly. dpt.

STONE.

	s. d.	
BATH STONE—delivered on road waggons, Paddington Depôt	1 6½	per ft. cube.
Do. do. delivered on road waggons, Nine Elms Depôt	1 8½	" "
PORTLAND STONE (20 ft. average)—		
Brown Whitbed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2 1	" "
White Basebed, delivered on road waggons, Paddington depôt, Nine Elms depôt, or Pimlico Wharf...	2 2½	" "

	s. d.	
Ancaster in blocks	1 11	per ft. cube, deld. rly. dep't.
Beer "	1 6	" "
Greenshill "	1 10	" "
Darley Dale in blocks...	2 4	" "
Red Corsehill "	2 5	" "
CloseburnRedFreestone	2 0	" "
Red Mansfield "	2 4	" "
YORK STONE—*Robin Hood Quality.*		
Scappled random blocks	2 10	" "
6 in. sawn two sides landings to sizes (under 40 ft. super.)	2 3	per ft. super. "
6 in. rubbed two sides ditto, ditto	2 6	" "
3 in. sawn two sides slabs (random sizes)	0 11½	" "
2 in. to 2½ in. sawn one side slabs (random sizes)	0 7½	" "
1½ in. to 2 in. ditto, ditto	0 6	" "

STONE (*continued*).

	s.	d.	
HARD YORK—			
Scappled random blocks	3	0	per ft. cube, deld. rly. depot.
6 in. sawn two sides, landings to sizes (under 40 ft. super.)	2	8	per ft. super. „
6 in. rubbed two sides ditto	3	0	„ „
3 in. sawn two sides (slabs random sizes)	1	2	„ „
2 in. self-faced random flags	0	5	„ „

	s.	d.	
Hopton Wood (Hard Bed) in blocks	2	0	per ft. cube. deld. rly. depôt.
„ „ „ 6 in. sawn both sides landings	2	7	per ft. super. deld. rly. depôt.
„ „ „ 3 in. sawn both sides random slabs	1	0	„ „
„ „ „ 2 in. do.	0	8½	„ „

SLATES.

in. in.	£	s.	d.	
20 x 10 best blue Bangor	13	2	6	per 1000 of 1200 at r. d.
20 x 12 „ „	13	17	6	„ „
20 x 10 first quality „	13	0	0	„ „
20 x 12 „ „ „	13	15	0	„ „
16 x 8 „ „ „	7	5	0	„ „
20 x 10 best blue Portmadoc	12	12	6	„ „
16 x 8 „ „	6	12	6	„ „
20 x 10 best Eureka unfading green	15	17	6	„ „
20 x 12 „ „	18	7	6	„ „
18 x 10 „ „	13	5	0	„ „
16 x 8 „ „	10	5	0	„ „
20 x 10 permanent green	11	12	6	„ „
18 x 10 „ „	9	12	6	„ „
16 x 8 „ „	6	12	6	„ „

TILES.

	s.	d.	
Best plain red roofing tiles	42	0	per 1000 at rly. depôt.
Hip and Valley tiles	3	7	per doz. „ „
Best Brosely tiles	50	0	per 1000 „ „
Do. Ornamental tiles	52	6	„ „ „
Hip and Valley tiles	4	0	per doz. „ „
Best Ruabon red, brown, or brindled do. (Edwards)	57	6	per 1000 „ „
Do. Ornamental do	60	0	„ „ „
Hip tiles	4	0	per doz. „ „
Valley tiles	3	0	„ „ „
Best Red or Mottled Staffordshire do. (Peakes)	51	9	per 1000 „ „
Do. Ornamental do	54	6	„ „ „
Hip tiles	4	1	per doz. „ „
Valley tiles	3	8	„ „ „
Best "Rosemary" brand plain tiles	48	0	per 1000 „ „
Best Ornamental tiles	50	0	„ „ „
Hip tiles	4	0	per doz. „ „
Valley tiles	3	8	„ „ „
Best "Hartshill" brand plain tiles, sand faced.	50	0	per 1000 „ „
Do. pressed	47	6	„ „ „
Do. Ornamental do	50	0	„ „ „
Hip tiles	4	0	per doz. „ „
Valley tiles	3	6	„ „ „

WOOD.

BUILDING WOOD.	At per standard. £	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in	13	10	0	15	0	0
Deals: best 3 by 9	13	0	0	14	0	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.	11	0	0	12	0	0
Battens: best 2½ by 6 and 3 by 6	0	10	0	less than 7 in. and 8 in.		
Deals: seconds	1	0	0	less than best.		
Battens: seconds	0	10	0	„ „ „		
2 in. by 4 in. and 2 in. by 6 in.	9	0	0	10	0	0
2 in. by 4½ in. and 2 in. by 5 in.	8	10	0	9	10	0
Foreign Sawn Boards— 1 in. and 1½ in. by 7 in.	0	10	0	more than battens.		
¾ in.	1	0	0	„		

	At per load of 50 ft.					
Fir timber: best middling Danzig or Memel (average specification)	4	10	0	5	0	0
Seconds	4	0	0	4	10	0
Small timber (8 in. to 10 in.)	3	12	6	3	15	0
Small timber (6 in. to 8 in.)	3	0	0	3	10	0
Swedish balks	2	10	0	3	0	0
Pitch-pine timber (30 ft. average)	3	5	0	3	15	0

JOINERS' WOOD.	At per standard.					
White Sea: first yellow deals, 3 in. by 11 in	24	0	0	25	0	0
3 in. by 9 in.	22	0	0	23	0	0
Battens, 2½ in. and 3 in. by 7 in.	16	10	0	18	0	0
Second yellow deals, 3 in by 11 in.	18	10	0	20	0	0
„ „ 3 in. by 9 in.	17	10	0	19	0	0
Battens, 2½ in. and 3 in. by 7 in.	13	10	0	14	10	0
Third yellow deals, 3 in. by 11 in. and 9 in.	13	10	0	15	0	0
Battens, 2½ in. and 3 in. by 7 in.	11	0	0	12	0	0
Petersburg: first yellow deals, 3 in. by 11 in.	21	0	0	22	10	0
Do. 3 in. by 9 in.	18	0	0	19	10	0
Battens	13	10	0	15	0	0
Second yellow deals, 3 in. by 11 in.	16	0	0	17	0	0
Do. 3 in. by 9 in.	14	10	0	16	0	0
Battens	11	0	0	12	10	0
Third yellow deals, 3 in. by 11 in.	13	0	0	14	0	0
Do. 3 in. by 9 in.	12	10	0	14	0	0
Battens	10	0	0	11	0	0
White Sea and Petersburg:— First white deals, 3 in. by 11 in.	14	10	0	15	10	0
„ „ 3 in. by 9 in.	13	10	0	14	10	0
Battens	11	0	0	12	0	0
Second white deals, 3 in. by 11 in.	13	10	0	14	10	0
„ „ 3 in. by 9 in.	12	10	0	13	10	0
„ „ battens	10	0	0	11	0	0
Pitch-pine: deals	16	10	0	20	0	0
Under 2 in. thick extra	0	10	0	1	0	0

WOOD (*continued*).

JOINERS' WOOD (*continued*).	At per standard. £	s.	d.	£	s.	d.
Yellow Pine—First, regular sizes	44	0	0	upwards.		
Oddments	32	0	0	„		
Seconds, regular sizes	33	0	0	„		
Yellow Pine oddments	28	0	0	„		
Kauri Pine—Planks, per ft. cube	0	3	6	0	5	0
Danzig and Stettin Oak Logs— Large, per ft. cube	0	3	0	0	3	6
Small „ „	0	2	6	0	2	9
Wainscot Oak Logs, per ft. cube.	0	5	0	0	5	6
Dry Wainscot Oak, per ft. sup. as inch	0	0	8	0	0	9
¾ in. do. do.	0	0	7	—		
Dry Mahogany—Honduras, Tabasco, per ft. super. as inch	0	0	9	0	1	0
Selected, Figury, per ft. sup. as inch	0	1	6	0	2	6
Dry Walnut, American, per ft. sup. as inch	0	0	10	0	1	0
Teak, per load	17	0	0	22	0	0
American Whitewood Planks, per ft. cube	0	4	0	0	5	0
Prepared Flooring, etc.—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	13	6	0	17	6
1 in. by 7 in. yellow, planed and matched	0	14	0	0	18	0
1¼ in. by 7 in. yellow, planed and matched	0	16	0	1	0	0
1 in. by 7 in. white, planed and shot	0	12	0	0	14	6
1 in. by 7 in. white, planed and matched	0	12	6	0	15	0
1¼ in. by 7 in. white, planed and matched	0	15	0	0	16	6
¾ in. by 7 in. yellow, matched and beaded or V-jointed brds.	0	11	0	0	13	6
1 in. by 7 in. do. do.	0	14	0	0	18	0
¾ in. by 7 in. white do. do.	0	10	0	0	11	6
1 in. by 7 in. do. do. do.	0	12	9	0	15	0

6 in. at 6d. to 9d. per square less than 7 in.

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	6	0	0	6	15	0
Compound Girders, ordinary sections	7	10	0	8	10	0
Steel Compound Stancheons	9	2	6	10	12	6
Angles, Tees and Channels, ordinary sections	7	10	0	8	10	0
Flitch Plates	7	15	0	8	5	0
Cast Iron Columns and Stanchions including ordinary patterns	6	12	6	7	15	0

METALS.

IRON—	Per ton, in London. £	s.	d.	£	s.	d.
Common Bars	7	0	0	7	10	0
Staffordshire Crown Bars, good merchant quality	7	10	0	8	0	0
Staffordshire "Marked Bars"	9	10	0	—		
Mild Steel Bars	8	5	0	8	15	0
Hoop Iron, basis price	8	15	0	9	0	0
„ „ Galvanized	16	10	0	—		
(„ „ And upwards, according to size and gauge.)						
Sheet Iron, Black— Ordinary sizes to 20 g.	9	0	0	—		
„ „ 24 g.	10	0	0	—		
„ „ 26 g.	11	15	0	—		
Sheet Iron, Galvanised, flat, ordinary quality— Ordinary sizes—6 ft. by 2 ft. to 3 ft. to 20 g.	12	10	0	—		
Ordinary sizes to 22 g. and 24 g.	13	0	0	—		
„ 26 g.	14	0	0	—		
Sheet Iron, Galvanised, flat, best quality— Ordinary sizes to 20 g.	15	10	0	—		
„ „ 22 g. and 24 g.	16	0	0	—		
„ „ 26 g.	17	10	0	—		
Galvanised Corrugated Sheets— Ordinary sizes 6 ft. to 8 ft. 20 g.	12	10	0	—		
„ „ 22 g. and 24 g.	13	0	0	—		
„ „ 26 g.	13	15	0	—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	11	0	0	—		
Best Soft Steel Sheets, 22 g. & 24 g.	12	0	0	—		
„ „ „ 26 g.	13	10	0	—		
Cut nails, 3 in. to 6 in.	9	0	0	9	10	0

(Under 3 in., usual trade extras.)

LEAD, &c.

	Per ton, in London. £	s.	d.	£	s.	d.
LEAD—Sheet, English, 3lb. and up	15	7	6	—		
Pipe in coils	15	17	6	—		
Soil pipe	18	7	6	—		
Compo pipe	18	7	6	—		
ZINC—Sheet— Vieille Montagne ton	30	15	0	—		
Silesian	30	10	0	—		
COPPER— Strong Sheet per lb.	0	0	10	—		
Thin „ „	0	0	11	—		
Copper nails „	0	0	10	—		
BRASS— Strong Sheet „	0	0	9½	—		
Thin „ „	0	0	10	—		
TIN—English Ingots „	0	1	4½	—		
SOLDER—Plumbers' „	0	0	6½	—		
Tinmen's „	0	0	8	—		
Blowpipe „	0	0	9	—		

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2¾d. per ft. delivered.
„ fourths	2d. „ „
21 oz. thirds	3¾d. „ „
„ fourths	3d. „ „
26 oz. thirds	4¾d. „ „
„ fourths	3¾d. „ „
32 oz. thirds	5¾d. „ „
„ fourths	5d. „ „
Fluted Sheet, 15 oz.	3¼d. „ „
„ 21 oz.	4¼d. „ „
⅛ Hartley's Rolled Plate	2d. „ „
¼ „ „ „	2¼d. „ „
½ „ „ „	2½d. „ „

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	1	8
„ „ „ in barrels	„	0	1	9
„ „ „ in drums	„	0	1	11
Boiled „ „ in pipes	„	0	1	10
„ „ „ in barrels	„	0	1	11
„ „ „ in drums	„	0	2	1
Turpentine, in barrels	„	0	3	9
„ in drums	„	0	3	11
Genuine Ground English White Lead	per ton	19	15	0
Red Lead, Dry	„	19	5	0
Best Linseed Oil Putty	per cwt.	0	6	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon. £	s.	d.
Fine Pale Oak Varnish	0	8	0
Pale Copal Oak	0	10	6
Superfine Pale Elastic Oak	0	12	6
Fine Extra Hard Church Oak	0	10	0
Superfine Hard-drying Oak, for seats of Churches	0	14	0
Fine Elastic Carriage	0	12	6
Superfine Pale Elastic Carriage	0	16	0
Fine Pale Maple	0	16	0
Finest Pale Durable Copal	0	18	0
Extra Pale French Oil	1	1	0
Eggshell Flatting Varnish	0	18	0
White Copal Enamel	1	4	0
Extra Pale Paper	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	6
Berlin Black	0	16	0
Knotting	0	10	0
French and Brush Polish	0	10	0

TO CORRESPONDENTS.

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications; and the Editor cannot be responsible for drawings, photographs, manuscripts, or other documents, or for models or samples, sent to or left at this office, unless he has specially asked for them.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications must be authenticated by the name and address of the sender, whether for publication or not. No notice can be taken of anonymous communications.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article, or to execute or lend a drawing for publication, is given subject to the approval of the article or drawing, when received, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* [N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is stated, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

*** Denotes *accepted.* † Denotes *provisionally accepted.***

ABERTYSSWG.—For supplying and laying about 235 lineal yds. of 18-in. stoneware pipes, 367 lineal yds. of 9-in. stoneware pipes, and 40 lineal yds. of 9-in. cast-iron pipes, with manholes and lampholes, at Abertysswg, for the Rhymney Urban District Council. Mr. W. L. Marks, Surveyor, 61, High-street, Rhymney:—

D. Jones, 20, Regent-street, Dowlais £272 6 7

ASKAM-IN-FURNESS.—For erecting a manager's house, weigh office, and other buildings at Gasworks, for the Dalton-in-Furness Urban District Council. Mr. W. Richardson, Architect and Surveyor, Dalton-in-Furness:—

T. Brown	£523 0 0	A. Graham	£366 5 0
T. Bradley	477 15 9	W. H. Buxton, Askam*	355 0 0
G. Martin	375 0 0		
J. Simpson	369 0 0		

ASKAM-IN-FURNESS.—For gas tank and holder, for the Dalton-in-Furness Urban District Council. Mr. W. Richardson, Architect and Surveyor, Dalton-in-Furness:—

W. C. Holmes & Co.	£1,208
Newton, Chambers, & Co., Ltd.	1,100
Ashmore, Benson, Pease, & Co., Stockton-on-Tees*	1,073

BANBURY.—New Baptist schoolroom at Culworth, near Banbury. Mr. A. E. Allen, architect and surveyor, 31A, Bridge-street, Banbury:—

S. Orchard & Son	£187 0	T. Kench	£139 0
J. Grant & Sons	160 10	F. G. Watson, Southam*	116 10
J. F. Booth	139 5		

BLATHERWYCKE.—For widening and part rebuilding bridge, for the Northamptonshire County Council. Mr. C. S. Morris, County Surveyor, County Hall, Northampton:—

S. Hipwell & Co.	£1,775 0 0	Sturgess & Sons	£943 17 6
F. Henson	1,157 10 0	Hackseley Bros., Wellingborough*	929 0 0
S. Manton	1,130 0 0		
Siddons & Freeman	990 0 0		

TENDERS.—*Continued on page* 527.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, etc., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be Delivered
*Extension of Shire House, Norwich	Norfolk C.C.	100*l.*, 50*l.*, and 25*l.*	No date.

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be Delivered
Infirmary at Alnwick	The Governors	W. T. Hindmarsh, Hon. Sec. to Governors, Alnwick.....	May 13
Reconstruction of Gasworks, Gourock	Gas Committee	A. D. Murray, Town Clerk, Gourock.....	May 15
Pair of Cottages	.....	Clark & Moscrop, Architects, Feethams, Darlington	do.
Alterations and Additions to Stabling, Killerby Hall	.....	do.	do.
Wks., County Weights & Measures Inspector's Office	Kingston-on-Thames Corporation ..	Borough Surveyor, Municipal Offices, Kingston-on-Thames.....	do.
Flagging to Footpath, Carver Clough.....	Rishworth U.D.C.....	R. Horsfall & Son, Archs. & Survs., 22a, Commercial-st., Halifax	do.
Relaying Curb and Channel.....	do.	do.	do.
Six Purifiers at Foleshill	Coventry Gas Committee	F. W. Stevenson, Engineer, Gasworks, Coventry	do.
Wrought-Iron Railing at One Tree Hill, Honor Oak	Camberwell Borough Council.....	W. Oxtoby, Borough Engineer, Town Hall, Camberwell	do.
Private Street Improvements	Ashton-in-Makerfield U.D.C.	T. Burgess, Surveyor, Council Offices, Ashton-in-Makerfield.....	do.
500 yds. 18-in. Concrete Cylindrical Tubes	East Ham Corporation	A. H. Campbell, Borough Engineer, Town Hall, East Ham.....	do.
Warming and Ventilating, Central Library, Darley-st.	Bradford Corporation	City Architect, Whitaker-buildings, Brewery-street, Bradford ..	do.
Warming and Ventilating, Art School, Gt. Horton-rd.	do.	do.	do.
Painter Work at Residence and Mortuary, Bangour.	Edinburgh District Lunacy Board..	H. J. Blanc, R.S.A., 25, Rutland-square, Edinburgh.....	do.
Steel Flat-bottomed Rails and Fish Plates	Leeds Corporation (Waterworks) ..	Waterworks Committee, Town Hall, Leeds	do.
Iron Syphon under River Nidd	Knaresborough R.D.C.	Surveyor to Council, 14, Bower-road, Harrogate	do.
Street Works	Blackburn Highway Committee ..	W. Stubbs, Borough Engineer, Municipal Offices, Blackburn	do.
Three Houses on Craigbedw, near Tredegar	Mr. Wynne.....	D. W. Price, Cloth Hall, near Tredegar	do.
Library, Newbury	Free Library Committee.....	F. Quekett Louch, Town Clerk, Newbury	do.
Materials	Glasgow Corporation	T. Melvin 30, Cochrane-street, Glasgow	do.
*Alterations and Additions to Schools, Knaphill	Surrey Education Committee.....	Jarvis & Richards, Architects, 36, Victoria-street, S.W.	do.
Stores	Bradford Cleansing, etc., Committee	Superintendent Call, Hammerton-street Depot, Bradford.....	May 16
600 lin. yds. of Iron Fencing, New Recreation Ground	Cowes U.D.C.	J. W. Webster, Surveyor to Council, Cowes	do.
Two Houses, Aynsley-terrace, Consett	Messrs Clough & Pounder.....	T. H. Murray, Architect and Surveyor, Front-street, Consett....	do.
Two Houses and Premises, Bridlington.....	Mr. T. Grimshaw	J. Earnshaw, Architect, Bridlington	do.
Villa, Pentre	Mr. W. Williams	J. Rees, Architect, Pentre	do.
*Road-making and Paving Works	Willesden District Council	Council's Engineer, Dyne-road, Kilburn, N.W.	do.
*Steel Fencing, Gates, and Fixing Same.....	Bromley Borough Council	Borough Engineer, Bromley, Kent	do.
Works at Chapel House Reservoir	Aspatrin, Selloth, etc., Water Board	C. B. Newton, Engineer, Whitehall-chambers, Carlisle	May 17
300 yds. of Guernsey Granite	Ham U.D.C.	A. H. Pritt, Surveyor, Sudbrook Cottages, Ham Common, S.W...	do.
200 yds. of Broken Brown Kent Flints.....	do.	do.	do.
Cartage Work.....	do.	do.	do.
Strengthening by Steel Work Todmorden Stone Bridge	West Riding C.C.	F. G. Carpenter, County Surveyor, Wakefield.....	do.
Steel Bull-headed Rails.....	East India Railway Co.	C. W. Young, Secretary, Nicholas-lane, London, E.C.	do.
Extension of Public Swimming Baths	Salisbury U.D.C.	City Surveyor's Office, Endless-street, Salisbury	do.
Coal Elevating and Conveying Plant	Leith Corporation.....	Burgh Electrical Engineer, Junction-street, Leith	do.
Boiler-House Auxiliary Plant	do.	do.	do.
New Hope English Baptist Chapel, Gelli	The Trustees	W. D. Morgan, Architect, Victoria-chambers, Pentre	do.
Police-Station at Rhymney	Standing Joint Committee	W. Tanner, County Surveyor, Newport, Mon.	do.
Baptist Chapel in Hanbury-road, Bargoed	.....	James & Morgan, Architects, Charles-street-chambers, Cardiff....	do.
Road at New Waterworks at Brayton Barff, Selby..	Selby U.D.C.....	P. Griffith, Engineer, 54, Parliament-street, Westminster, S.W...	do.
Public Conveniences and Offices, West Pier.....	Scarborough Town Council.....	H. W. Smith, Borough Engineer, Town Hall, Scarborough	do.
House at Flimby Lodge, Cockermouth	The Guardians	W. G. Scott & Co., Architects, Victoria-buildings, Workington ..	do.
Fencing-in., etc., Burial Ground at Prendergast....	Prendergast Burial Board	H. Thomas, Surveyor, Haverfordwest	do.
*Cleaning and Painting Station Buildings, etc.....	Midland Railway Co.	Company's Architect, Cavendish House	do.
Schoolroom, Vestry, House, etc., Treherbert	Trustees of Bethany Baptist Chapel	W. D. Morgan, Architect, Victoria-chambers, Pentre.....	May 18
1,000 tons of Lime.....	Birkenhead Corporation	T. O. Paterson, Gas Engineer, Birkenhead	do.
Repair of Main Roads	Monmouthshire C.C.....	W. Tanner, County Surveyor, County Council Offices, Newport, Mon.	do.
Inside Ptg., etc., Union Offices, All Saints, Manchester	Chorlton Guardians	Porter at the Union Offices.....	do.
Synagogue, Spring-gdns., Manningham-la., Bradford	Bradford Hebrew Congregation....	11, Darby-street, Bradford	do.
Square Lanterns (500 to 5,000)	Glasgow Corporation	Inspector of Lighting, 52, College-street, Glasgow.....	do.
Bowling Pavilion, etc., Regent-road, Edinburgh	Edinburgh Corportion.....	Public Works Office, City-chambers, Edinburgh	do.
Renewal, etc., of Iron and Stonework of Bridge....	Bridgnorth Corporation	Borough Surveyor, Bridgnorth	May 19
Eight Dwelling-houses, Jagger Green-lane	.....	F. F. Beaumont, Architect, Southgate-chambers, Halifax.....	do.
Nightsoil Collection	Kingston-upon-Hull Corporation ..	Inspector of Nuisances, Hanover-square, Hull	do.
Removing Ashpit Contents	Carlisle R.D.C.	Clerk, 7, Victoria-place, Carlisle.....	May 20
Superheaters	Keighley Electricity Committee ..	J. M. Smyth, Boro. Electrical Engineer, Electricity Wks., Keighley	do
Repainting Exterior of Stafford Asylum Buildings..	Stafford County Asylum	W. H. Cheadle, County Surveyor, Stafford	do.
Chapel & Schoolroom, Mount Pleasant-rd., Ebbw Vale	Trustees of Nebo Baptist Church ..	H. Waters, Architect, Beaufort	do.
Timber for Handicraft Centres.....	Manchester Education Committee..	W. H. Talbot, Town Clerk, Manchester	do.
Road Materials	Leeds R.D.C.....	J. H. Ford, Clerk, Poor Law Buildings, Leeds	do.
Thirteen Cottages in Spring-gardens, Wigan	Corporation	Borough Engineer, King-street West, Wigan	do.
Alterations, etc., Grampound National School.....	.....	Dr. D. M. Bary, Grampound, Cornwall	do.
Bandstand, Splott Park, Cardiff.....	The Corporation	W. Harpur, Borough Engineer, Town Hall, Cardiff	do.
Farm Steading, Branston, Urquhart	.....	Innes Estate Office, Urquhart, N.B.	do.
Dwelling-House, Dinnieborn	.....	Fiddoch Cottage, Arndilly, N.B.	do.
Stores	Directors Powell Duffryn St. Coal Co.	Stores Manager, Aberaman Offices, Aberdare	May 22
Flints and Granite.....	Burgess Hill U.D.C.....	A. F. Hardwick, Clerk, Burgess Hill.....	do.
Lime	Leeds Gas Committee	R. H. Townsley, Gas Offices, East-parade, Leeds	do.
Wrought-Iron Tubes	do.	do.	do.
Pressed and Common Red Bricks	do.	do.	do.
Self-faced Bradford or Halifax Flags.....	do.	do.	do.
Granite Cubes and Setts	Warrington Paving, etc., Committee	T. Longdin, Borough Surveyor, Town Hall, Warrington	do.
Removing Weeds from Rivers Witham, Brant, & Till	.....	J. Thropp, Surveyor, 29, Broadgate, Lincoln	do.
Mission Church at Gelli.....	Rev. Canon Lewis	J. Rees, Architect, Pentre	do.
Schoolroom on St. David's Church Ground, Ton....	do.	do.	do.
Excavating, etc., and Laying Pipes, Gorddinog	Col. H. Platt, C.B.	T. B. Farrington, Engineer, Trinity-square, Llandudno	do.
Road Material.....	Romford R.D.C.	G. Lapwood, Highway Surveyor, Victoria-chambers, Romford ..	do.
Heating Apparatus, Clive Vale Schools, Hastings ..	Hastings Education Committee....	C. A. Pigott, Architect, Saxon-chambers, London rd., St. Leonards	do.
Cast-Iron Mains, etc.....	Colchester Corporation	C. E. Bland, Town Hall, Colchester	do.
Villa Residence, London-road, Gorseinon.....	.....	C. T. Ruthen, Architect, Bank-chambers, Heathfield-st., Swansea	do.
Dwelling-House, Bakehouse, and Stable, Aberlour ..	.....	Mr. Catto, Baker, Aberlour	do.
Widening part of Burnley Branch Railway	Lancashire & Yorkshire Railway Co.	Engineer's Office, Hunt's Bank, Manchester	May 23
Double Twin-screw Ferry Steamer.....	Birkenhead Corporation	Ferries Manager, Woodside, Birkenhead	do.
Internal Works to Chancel, Thornaby Church.....	.....	The Vicarage, Thornaby-on-Tees	do.
Two Extensions of Sewers, West Ewell.....	Epsom R.D.C.	Council Offices, Waterloo-road, Epsom.....	do.
Cricket Pav., Cart-sheds, etc., at Warlingham Hospital	Visiting Com., Croydon Mental Hos.	G. F. Carter, Borough Engineer, Town Hall, Croydon	do.
Quarter mile Oak Pole Fencing, Warlingham Hospital	do.	do.	do.
Pipes, etc., Electricity Works.....	South Shields Corporation	J. H. Cawthra, Borough Electrical Engineer, South Shields	do.
Wooden Platforms under Quay	do.	do.	do.
Ideford Water Supply (Reservoir for 10,000 gallons)	Newton Abbot R.D.C.....	S. Segar, Union-street, Newton Abbot	May 24
Lock-up at Marple Bridge, near Stockport	Derbyshire C.C.....	J. S. Story, County Surveyor, County Offices, St. Mary's-gate, Derby	do.
Supplies	Pembroke U.D.C., Co. Dublin	J. C. Manly, Clerk, Town Hall, Ball's Bridge, Pembroke, Co. Dub.	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, etc., supplied by	Tenders to be Delivered
Steel Coal Bunkers, etc.	Islington Lighting Committee	W. F. Dewey, Town Clerk, Town Hall, Upper-street, N.	May 24
7,000 yds. Gas Mains, Sheerness-on-Sea	Sheppy Gas Co.	H. Barber, 2, Trinity-road, Sheerness-on-Sea	do.
Main Outfall Surface Drain, Mill-road, etc.	Rugby U.D.C.	D. G. Macdonald, Surveyor, Rugby	do.
Conversion of Old Bodringallt Schools into one Dept.	Rhondda U.D.C.	J. Rees, Architect, Hillside Cottage, Pentre	May 25
Market Stalls, Nelson, Lancs.	Market and Library Committee	B. Ball, Borough Engineer, Town Hall, Nelson, Lancs.	do.
*New Council School, Cuxton	Kent Education Committee	G. E. Bond, Architect, 384, High-street, Rochester	do.
*Columbarium and Mortuary, West Hampstead	Borough of Hampstead	Town Clerk, Town Hall, Hampstead, N.W.	do.
Urinal Over Hockley Brook, Aston-road North	Aston Manor Town Council	Borough Surveyor, Council House, Aston Manor	May 26
Alters., etc., to Heating Apparatus, Fusehill Workho.	Carlisle Guardians	G. Armstrong, Architect, 24, Bank-street, Carlisle	May 27
Additions to Windy Nook Council School	Felling U.D.C.	H. Miller, Architect, Council Building, Felling	do.
Electric Light Plant, Bangour Village	Edinburgh District Lunacy Board	H. J. Blanc, R.S.A., 25, Rutland-square, Edinburgh	do.
Hospital Block at Union Hospital, Fir Vale	Sheffield Guardians	H. I. Potter, Architect, 24, Norfolk-row, Sheffield	do.
Completion of Tower, St. Peter's Ch., Stockton-on-T.	.....	G. R. Boreham, 24, John-street, Sunderland	do.
Roadworks, Morpeth-terrace, etc., Percy Main	Tynemouth Corporation	J. F. Smillie, Borough Surveyor, Tynemouth	May 28
Convent at Kilmore, Co. Wexford	The Sisters of St. John of God	W. H. Byrne & Son, Architects, 20, Suffolk-street, Dublin	do.
Passenger and Goods Engines	Great Northern Railway Co., Ireland	T. Morrison, Secretary, Amien's-street Terminus, Dublin	May 29
Free Library, Dowlais	Merthyr Tydfil U.D.C.	E. A. Johnson, Architect, Abergavenny	do.
Fire Escape Staircase, etc., at Bulcamp Workhouse	Blything Guardians	Union Offices, Bulcamp, Halesworth, Suffolk	do.
Business Premises, Lossiemouth	.....	R. B. Pratt, Architect, Town and County Bank-buildings, Elgin	do.
Sewerage Works, Falkland	Falkland Town Council	G. S. Carfrae, C.E., 1, Erskine-place, Edinburgh	do.
*Whitewashing, etc., Interior of Asy., Cleveland-st., W.	Central London Sick Asylum Dist.	Asylum, Cleveland-street, Fitzroy-square, W.	do.
Tramway Wagons	Dublin Corporation	S. Harty, City Engineer, City Hall, Dublin	May 30
20 miles of Railway	Strabane and Letterkenny Rly. Co.	J. Barton, C.E., Exchange-buildings, Dundalk	May 31
Structural Repairs to Farm Cottage	Sternfield Town Lands Trust	J. Fry, Solicitor, Saxmundham	do.
Additions to Dysart Church, Mullingar	Rev. C. Casey	W. A. Scott, Architect, 74, Hollybank-road, Drumcondra, Dublin	do.
Steam Installation, Shieldhall Outfall Works	Glasgow Corporation	Office of Public Works, City-chambers, 64, Cochrane-st., Glasgow	June 1
Gas Installation, Shieldhall Outfall Works	do.	do.	do.
Steam, with Standby Gas Engs., Shieldhall Outfall Wks	do.	do.	do.
Children's Cottage Homes at Carleton	Pontefract Guardians	Garside & Pennington, Architects, Pontefract	do.
Vested National Schools, Donegall-road, Belfast	.....	W. D. R. Taggart, Architect, Scottish Provident-buildings, Belfast	do.
Schoolroom, etc., Prim. Meth. Chapel, Dorchester	.....	J. Feacey, Architect, South Walks, Dorchester	do.
Sinking Well and Driving Adits at Northaw	Barnet District Gas Co.	T. H. Martin, Engineer, Station-road, New Barnet	June 2
Residence for King's Scholars, Glasnevin	Commissioners National Education	J. F. Fuller, F.S.A., Architect, 179, Great Brunswick-st., Dublin	June 3
Infant School, Walkergate, Beverley	Education Committee	Hawe & Foley, Architects, North Bar-street, Beverley	do.
Labourers' Cottages	Stranorlar R.D.C.	G. M'Laughlin, Clerk, Board-room, Stranorlar	June 5
Alterations, etc., Old Board School, Wivenhoe	Essex Education Committee	F. Whitmore, County Architect, Duke-street, Chelmsford	do.
*Sewer Works	Brentford U.D.C.	Council's Engineer, Boston-road, Brentford	June 6
Dry Dock, etc., Mode Wheel, Stretford	Manchester Ship Canal Co.	W. H. Hunter, Engineer, 41, Spring-gardens, Manchester	June 7
Granite and Stone	Bosmere and Clayton R.D.C.	J. S. MacGregor, Surveyor, Needham Market	June 8
*Installation of Engineering Plant, Carshalton	Metropolitan Asylums Board	Office of the Board, Embankment, E.C.	June 14
*Engineering Work, Carshalton-on-the-Hill	do.	do.	do.
Restor. of Parapet Walls, etc., St. Mary's Ch., Aberavon	The Vicar, etc.	J. A. James, Architect, Port Talbot	No date.
Three Villas at Top of Cymmer	.....	Griffiths, Maesgwyn, Cymmer, Porth	do.
Primitive Methodist Church, Derby-road, Southport	.....	F. W. Dixon, Architect, Trevelyan-buildings, Manchester	do.
Hotel, Grassington Station	.....	J. W. Broughton, Architect, 19, High-street, Skipton	do.
Additions, etc., Charlbury Council Schools	Oxfordshire C.C. Education Com.	Tollit & Lee, Architects and Surveyors, 7, St. Aldate's, Oxford	do.
Alterations to Hollowell School, Northampton	.....	W. Holland, Hollowell School, Northampton	do.
Cleaning & Painting of Schools and Caretakers Hses.	Newcastle-on-Tyne Education Com.	A. Goddard, Sec., Educa. Offices, Northumberland-rd., Newcastle	do.
Taking-up and Laying Gas Pipes	Aberdare Gas Co.	E. Jones, Gasworks, Aberaman	do.
Building Chimney, etc., Allerton Bywater Colliery	.....	Allerton Bywater Colliery, Ledston Station, near Castleford	do.
Manager's House for the Hirwain Collieries	The Marquess of Bute	J. Llewellin Smith & Davies, Architects, Aberdare	do.
House, Syke's Head, Oakworth, near Keighley	.....	J. Judson & Hudson, Architects, Oakworth, near Keighley	do.
Rebuilding Premises, Taff-street, Pontypridd	Mr. W. Jones-Powell	A. O. Evans, Williams, & Evans, Architects, Pontypridd	do.
House and Shop, Bridge-street, Halesworth	.....	A. Pells, Architect, Beccles	do.
*Detached Residence, etc., at Worcester Park	.....	W. G. Tutt & Goodchild, St. Olave's Hse., 18, Ironmonger-la., E.C.	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Architectural Assistant	Nottingham Corporation	140*l.* per annum	May 17
*Borough Engineer and Surveyor	Metropolitan Borough of Woolwich	600*l.* per annum	May 22
*Outdoor Foreman	Borough of Longton	2*l.* 10*s.* per week	May 24

Those marked with an (*) are advertised in this number. *Competitions*, iv. *Contracts*, iv. vi. viii. x. *Public Appointments*, xix.

TENDERS—*Continued from page* 525.

BRENTFORD.—For additional classrooms, etc., to Ealing-road Council school, Brentford, for the Middlesex County Council. Mr. F. H. Pownall, Architect, Guildhall, Westminster, S.W.:—
T. H. Kingerlee & Sons, Oxford* £1,716

CARDIFF.—For the construction of boundary walls, etc., at the Engineers' Institute, Park-place. Mr. W. Harpur, Borough Engineer, Town Hall, Cardiff:—
F Small £438 0 0
E. Turner & Sons 432 17 9
W. T. Morgan‡ 390 0 0
[All of Cardiff]
‡ Recommended to Council for acceptance.

CATFORD.—For erecting two shops on the site of "Ferndale," Rushev Green, Catford, for Mr. S. S. Brush. Messrs. Norfolk & Prior, architects, 4, Station-buildings, Catford Bridge:—

	Allowance for Material on Site.		Estimate.
J. Lawrence	—	....	£2,015
T. D. Leng	£55	....	1,614
C. Walker	40	....	1,425
J. Watt	50	....	1,390

CWMYGLO.—For erecting a stone bridge at Cwmyglo, Llanarthney, for Carmarthen Rural District Council. Mr. Gomer Henry, Surveyor, Llettypenhen, near Kidwelly:—
D. D. Mainwaring, Cross Hands, Llanelly* £625 10

HARROGATE.—For street improvement works off Robert-street, for the Corporation. Mr. F. Bagshaw, Borough Engineer and Surveyor, Harrogate:—
E. Long, 7, Forest-avenue, Starbeck, Harrogate* £433 4 10
Ezard & Johnson, Forest-avenue, Starbeck* 188 5 9

HEADINGLEY.—For Leeds Girls' Grammar School, for the Committee. Messrs. Connon & Chorley, architects, 16, Park-place, Leeds. Quantities by architects:—

I. Gould	£19,404 0	W. Wilson & Sons	£17,462 0
Armitage & Hodgson	18,927 0	T. Hannam	17,460 0
W. Irwin & Co.	18,657 0	J. Pullan	17,327 0
B. Graham	18,030 0	J. T. Wright ..	17,165 0
W. Lolley	17,775 8	P. Rhodes	17,096 0
H. Atkinson & Sons	17,565 0	W. Nicholson & Sons	16,950 0
J. Tomlinson & Sons	17,490 0	W. Aircy, Leeds*	16,750 0

HANWELL.—For the erection and completion of a lecture-hall in Uxbridge-road. Messrs. W. G. Tutt & Goodchild, architects, 18 and 19, Ironmonger-lane, Cheapside, E.C. Quantities by Mr. F. D. Hickman, 18 and 19, Ironmonger-lane, Cheapside, E.C.:—

		Months.
Snewin Bros.	£4,680 0	6
H. S. Cove	4,450 0	8
J. C. Mather	4,430 0	5
C. Brightman	4,390 0	7
J. Ferguson & Co.	4,387 10	6
J. Stewart	4,384 0	6
J. Burgess & Sons	4,375 0	6
A. Leather	4,341 0	6
G. Godson & Sons	4,250 0	6
J. F. Holliday	4,200 0	9
Banyard & Son	4,181 0	9
H. Willcock & Co.	4,164 0	9
L. F. Lamplough	4,129 0	6
B. E. Nightingale	4,100 0	5
Johnson & Co.	4,094 0	5
Mattock & Parsons	4,093 0	—
Battley, Sons, & Holness	4,071 0	6
Chinchen & Co.	4,056 0	6
Wisdom Bros.	4,049 0	6
Aldridge & Son	4,033 0	7
T. H. Kingerlee & Sons	3,997 0	6
W. J. Dickens	3,997 0	—
W. Lawrence & Sons	3,974 0	6
Oak Building Co., Ltd.	3,970 0	6
M. E. Fitt	3,970 0	7
G. H. Gibson	3,958 0	6
J. Christie	3,948 0	6
H. Flint	3,887 0	8

CARDIFF.—For paving, kerbing, and channelling the footways, Penylan-place, Penylan-lane West, Tydraw-place, etc., for the Corporation. Mr. W. Harpur, Borough Engineer, Town Hall, Cardiff. Quantities by Engineer:—

—	J. E. Evans.	E. Osmond & Sons.	T. R. Williams.	C. Davis, Cardiff.‡
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Penylan-place	391 10 3	308 10 6	307 1 0	288 14 8
Penylan-lane	112 18 9	79 18 4	79 5 5	71 9 2
Penylan-lane West	48 0 0	34 2 4	33 15 10	30 11 8
Tydraw-place	335 1 3	263 5 2	262 18 11	247 6 0
Tydraw-lane	192 8 3	134 4 5	135 14 7	122 12 4
Roath Branch-lane	315 5 0	218 5 0	217 3 6	193 17 2
Regina-terrace	199 0 0	154 11 10	166 16 3	145 15 0

‡ Recommended for acceptance.

KANTURK (Co. Cork).—For executing waterworks, for the Rural District Council. Mr. G. A. E. Hickson, M.Inst.C.E. (Ireland), 25, Denny-street, Tralee:—

J. J. Thornton	£5,497 0 0	Flannery Bros.	£4,527 9 7
R. P. O'Connor	5,326 0 0	J. Kelly	4,297 0 0
W. Baird ..	4,620 5 6	J. Fitzpatrick, Kanturk*	4,288 15 10

KINETON.—For erecting a new Wesleyan chapel at Whatcote, near Kineton. Mr. A. E. Allen, architect, 31A, Bridge-street, Banbury:—

J. Grant & Sons..	£277 0	E. T. Kennard Stratford-on-Avon*	£210 0
G. E. Adams	265 0		
T. Kench.....	263 10		

KING'S HEATH.—For the erection of a public library, for the King's Norton and Northfield Urban District Council. Mr. A. W. Cross, Surveyor, 23, Valentine-road, King's Heath:—
E. Crowder, Farm-street, Birmingham* £2,795

LONDON.—For rebuilding Nos. 2 and 4, Choumert-road, Peckham, for Mr. R. Price. Mr. T. Wilson, architect, 34, New Bridge-street, E.C.:—

C. Wall, Ltd.	£1,092	Leslie & Co.	£1,025
Nightingale	1,059	Coleman & Co.....	1,020
Lidstone	1,026	J. Chessum & Sons*	1,019

LONDON.—For painting, etc., at schools, Green-street, Upton Park, for the Guardians of St. George's-in-the-East. Mr. R. I. Tasker, architect, 38, John-street, Bedford-row, W.C.:—
J. F. Holliday, 37 and 46, Anthony-street, Commercial-road, E. £400

MORECAMBE.—For street improvements, Rustongrove, for the Corporation. Mr. J. Bond, Borough Surveyor, Town Hall, Morecambe:—

J. Parkinson ..	£134 0 10	J. Edmondson, Queen-street, Morecambe* .	£102 8 7
D. Inchcliffe ..	117 8 9		

MORPETH.—For erecting premises, for the Ashington Industrial Co-operative Society, Ltd. Messrs. Liddle & Browne architects, Prudential-buildings, Mosley-street, Newcastle-on-Tyne:—

E. F. George	£3,130 0 0	J. & G. Douglas..	£2,949 19 9
J. Jackson & Son	3,118 0 0	J. Weallans	2,909 5 0
Franklin & Sons, Ltd.	3,115 9 10	G. Dixon ..	2,896 13 6
W. E. Hall	3,092 2 7	R. Storey ..	2,886 5 0
J. Browell..	3,072 3 11	W. Kennedy & Son ..	2,742 2 3
J. W. Braithwaite & Co.	2,985 0 0	Gordon Bros., Morpeth* .	2,736 19 2

REIGATE. — For erecting elementary schools in Frenches-road, to accommodate 510 children, for the Committee. Mr. J. M. Kennard, architect, 13, Railway-approach, London Bridge, S.E. Quantities by Mr. C. J. Ford, 4, Mitre-court, Fleet-street, E.C.:—

R. & J. Wallace Bros.	£13,596 0 0
Davis & Leaney	13,206 0 0
W. H. Hyde	12,488 0 0
C. Nightingale & Sons	12,407 0 0
R. B. Amos	12,280 0 0
E. Worssell.....	12,200 0 0
J. King & Son	11,879 0 0
Martin, Wells, & Co.....	11,770 0 0
F. G. Lawrence	11,477 0 0
J. Greenwood, Ltd.	11,273 0 0
Mitchell Bros.	11,268 0 0
S. Page & Son	11,259 0 0
A. Faulks	11,200 0 0
Gathercole Bros.	11,195 0 0
Banyard & Son	11,195 0 0
W. Smith & Sons	11,176 0 0
R. Dean & Co.	11,115 0 0
East & Hyde	11,016 0 0
F. G. Minter	10,972 0 0
G. Martin	10,950 0 0
W. Shepherd	10,893 0 0
J. Longley & Co.	10,869 0 0
G. E. Wallis & Sons, Ltd.	10,686 0 0
J. J. Pink	10,674 0 0
Rowland Bros.	10,599 0 0
E. P. Bulled & Co.	10,523 0 0
J. Casse	10,492 0 0
E. A. Roome & Co.	10,483 0 0
R. Cook & Sons	10,380 0 0
J. Appleby & Sons, Lambeth, S.E.*	10,130 0 0
T. Stimson & Sons	8,477 12 10

REIGATE.—For the erection of a residence on Cronks Hill. Mr. C. E. Salmon, architect, Bell-street, Reigate:—

W. Wickman	£513	S. Jeal	£482
J. King & Son.....	506	T. Nightingale*	480
Elsey & Sons	504		

RHYMNEY.—For supplying and laying about 475 super. yds. of 2½-in. paving, 770 lineal yds. of 12-in. by 6-in. channelling, and 770 lineal yds. of 12-in. by 6-in. kerbing, and 62 super. yds. of 9-in. by 6-in. pitching for crossings, for the Urban District Council. Mr. W. L. Marks, Surveyor, 61, High-street, Rhymney:—
H. Rowlands, New Tredegar, via Cardiff £399 14 9

SOUTHALL.—For erection of a new public elementary school at Southall, for the Middlesex County Council. Mr. F. H. Pownall, Architect, Guildhall, Westminster, S.W.:—
Goddard & Sons, Farnham* £14,268

SOUTH BANK.—For Baptist church. Messrs. G. Baines & R. Palmer Baines, architects, 5, Clement's-inn, Strand, London, W.C.:—
Estimate A.

T. Brown....	£3,517 8 0	S. Coates....	£3,280 6 5
J. Davison ..	3,431 15 2	Allison Bros..	3,200 0 0
A. J. Cooke..	3,422 0 0	Bastiman Bros.*	3,113 3 6
Guthrie & Son	3,295 0 0	G. Radge....	3,084 0 0

TERRINGTON ST. CLEMENT (Norfolk).—For the construction of a road on the Alma Lodge Estate. Messrs. Walker & Walker, architects and surveyors, Wisbech and Terrington:—

G. Hornigold	£672 13	J. S. Johnson* ..	£605 0
Hipwell & Co. ..	615 0		

TERRINGTON ST. CLEMENT (Norfolk).—For the erection of cottage at New Common Marsh, for Messrs. Watson. Messrs. Walker & Walker, architects and surveyors, Wisbech and Terrington:—

Bateman & Son,	£268 2 6	J. Parker	£175 7 6
T. Pryor	190 0 0	J. Morton	164 0 0
J. S. Johnson ..	180 0 0	G. Hornigold*..	158 0 0

WANSTEAD.—For making-up Dover-road, Wanstead-park Estate, for the Urban District Council. Mr. C. H. Bressey, Surveyor, Council Offices, Wanstead, N.E.:—

Hewitt & Sons	£1,320 0 0	O. R. Anstead	£1,164 10 0
Grounds & Newton ..	1,281 7 0	A. W. Porter.	1,120 0 0
		F. Barry	1,110 0 0
T. Adams ..	1,259 0 0	J. Jackson, Clova-road, Forest Gate*	1,075 0 0
G. Bell.....	1,235 0 0		
W. & C. French	1,166 9 4		

[Surveyor's estimate, £1,202.]

WHITLEY BAY.—For erecting slaughter-houses, for the Whitley and Monkseaton Urban District Council. Mr. J. Moore, Surveyor, Whitley Bay:—

S. Sherriff ..	£4,499 0 0	R. H. Nesbit & Son....	£3,653 10 0
G. Park....	4,105 0 0	H. Millar ..	3,640 1 0
W. Dykes ..	4,090 0 0	J. & W. Simpson	3,600 0 0
R. W. Storey	4,078 0 0	S. Fenwick & Co.....	3,578 0 0
E. T. George	3,900 0 0	T. Clements	3,507 15 10
W. Tweedy .	3,894 0 0	N. Ritchie..	3,462 13 0
W. Jackson .	3,880 0 0	W. Gray, Whitley Bay*	3,417 8 10
Glen & Moffatt	3,858 0 0		
T. Patterson	3,828 8 7		
J. H. Greenwell	3,812 3 4		
J. Douglass .	3,674 14 7		
G. C. Brewis	3,670 15 4		

[Surveyor's estimate, £3,712 9]

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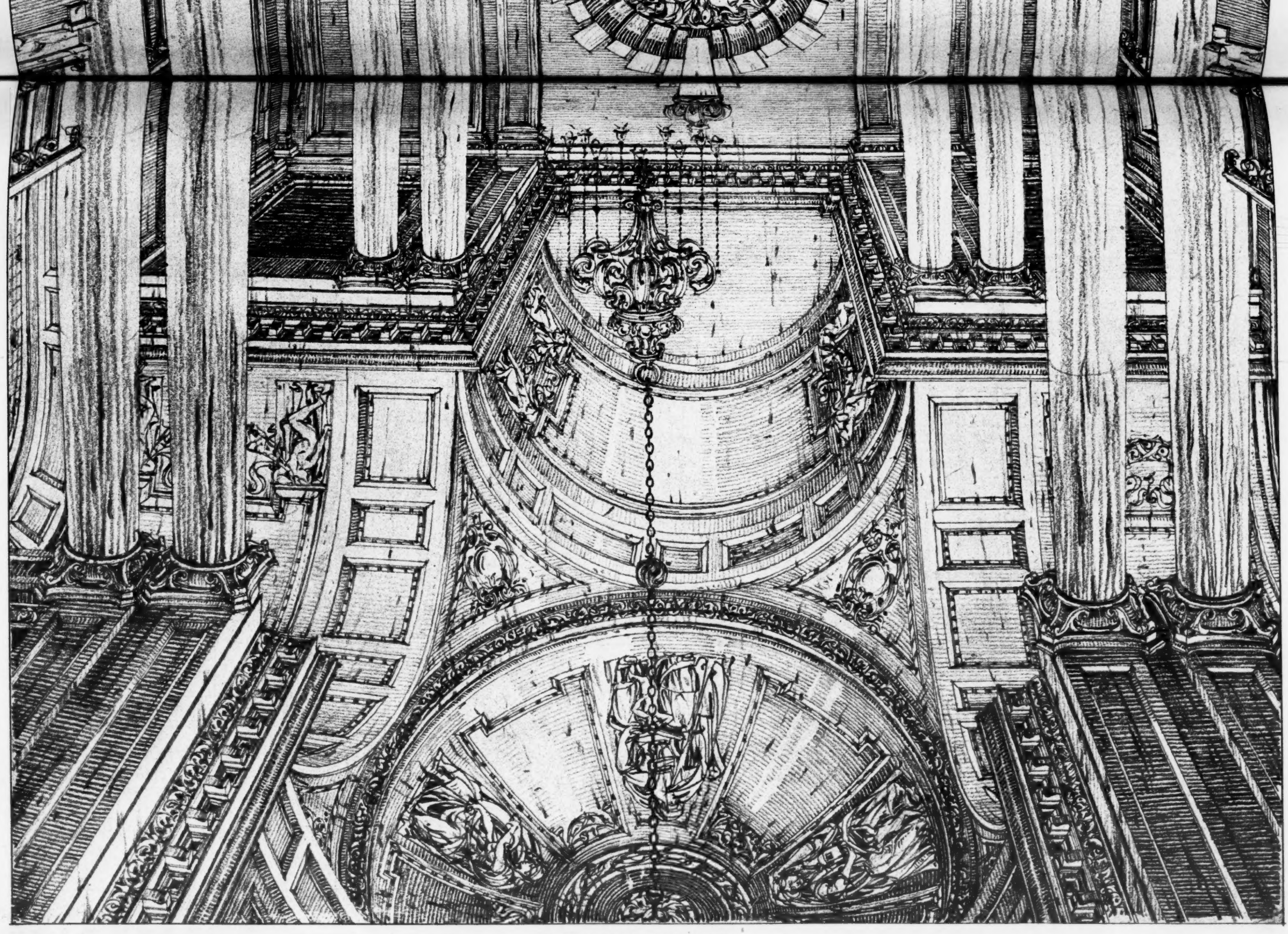

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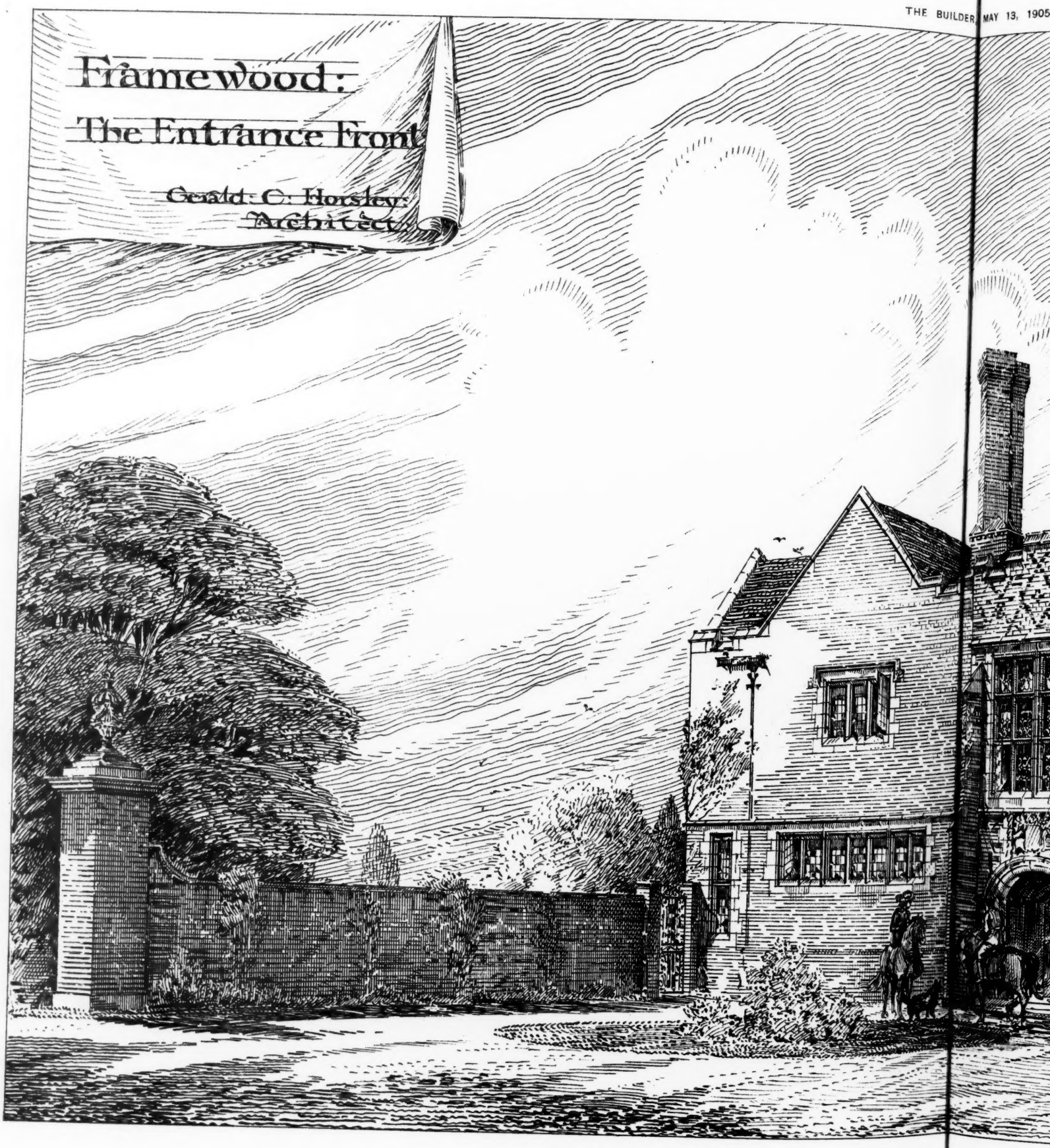
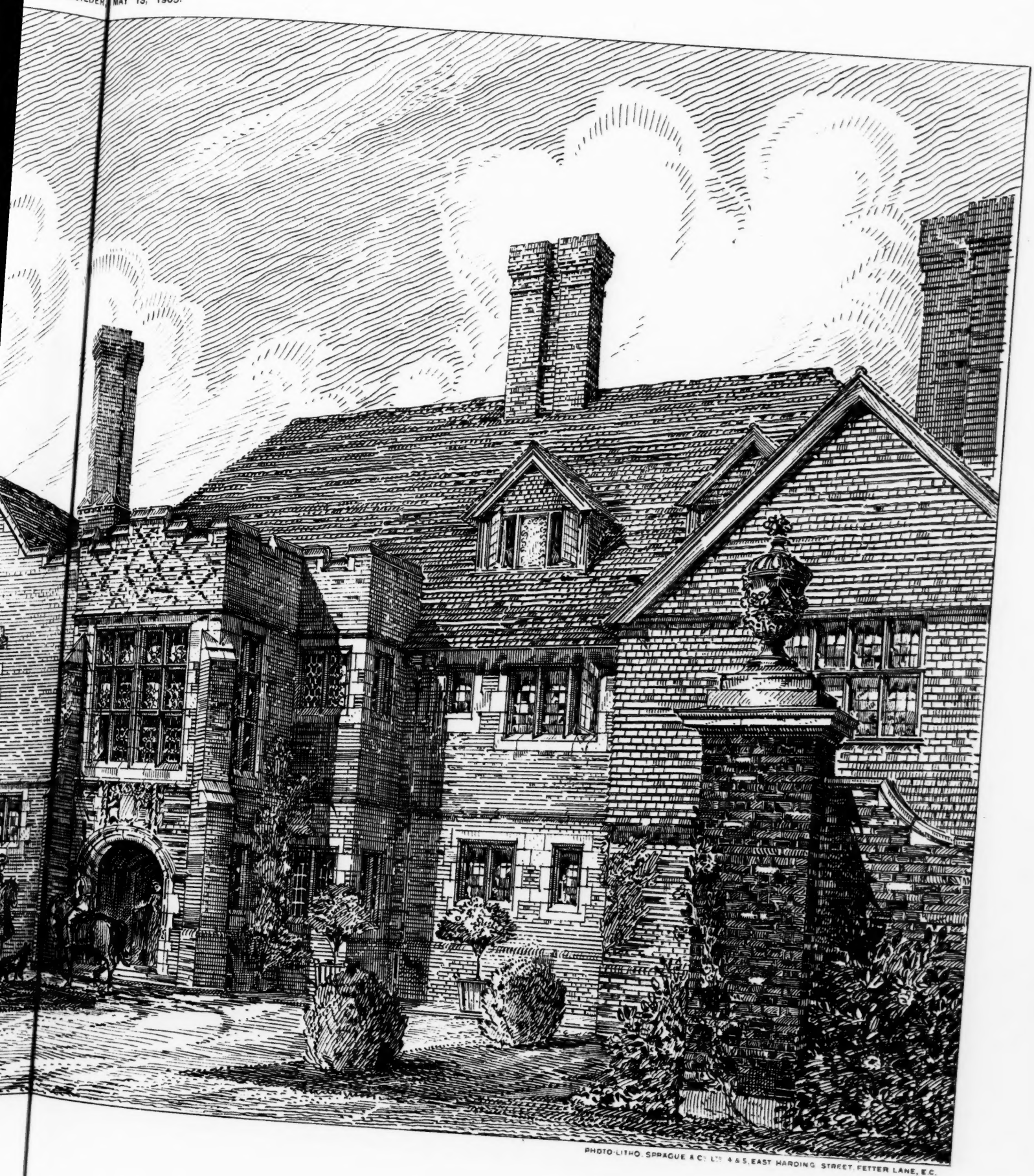
GRAND STAIRCASE, MUNICIPAL BUILDINGS, WALSALL.—Mr. J. S. Gibson, F.R.I.B.A., Architect.

Framewood:

The Entrance Front

Gerald C. Horsley: Architect.





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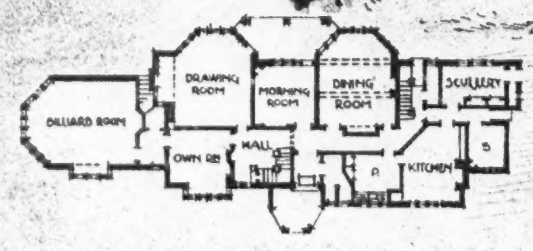

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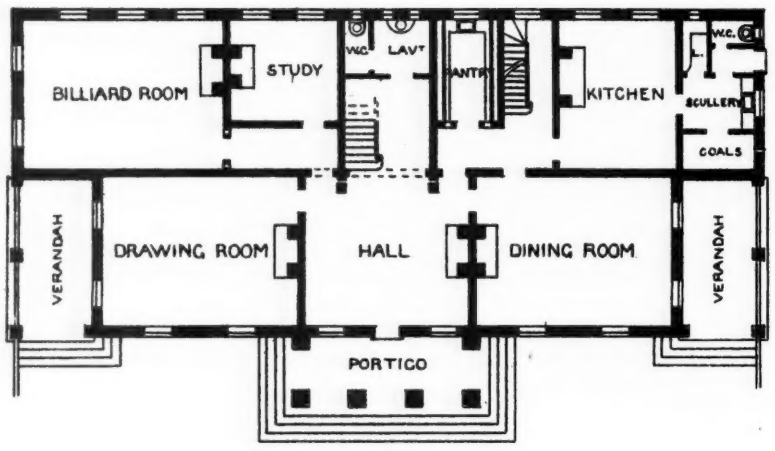
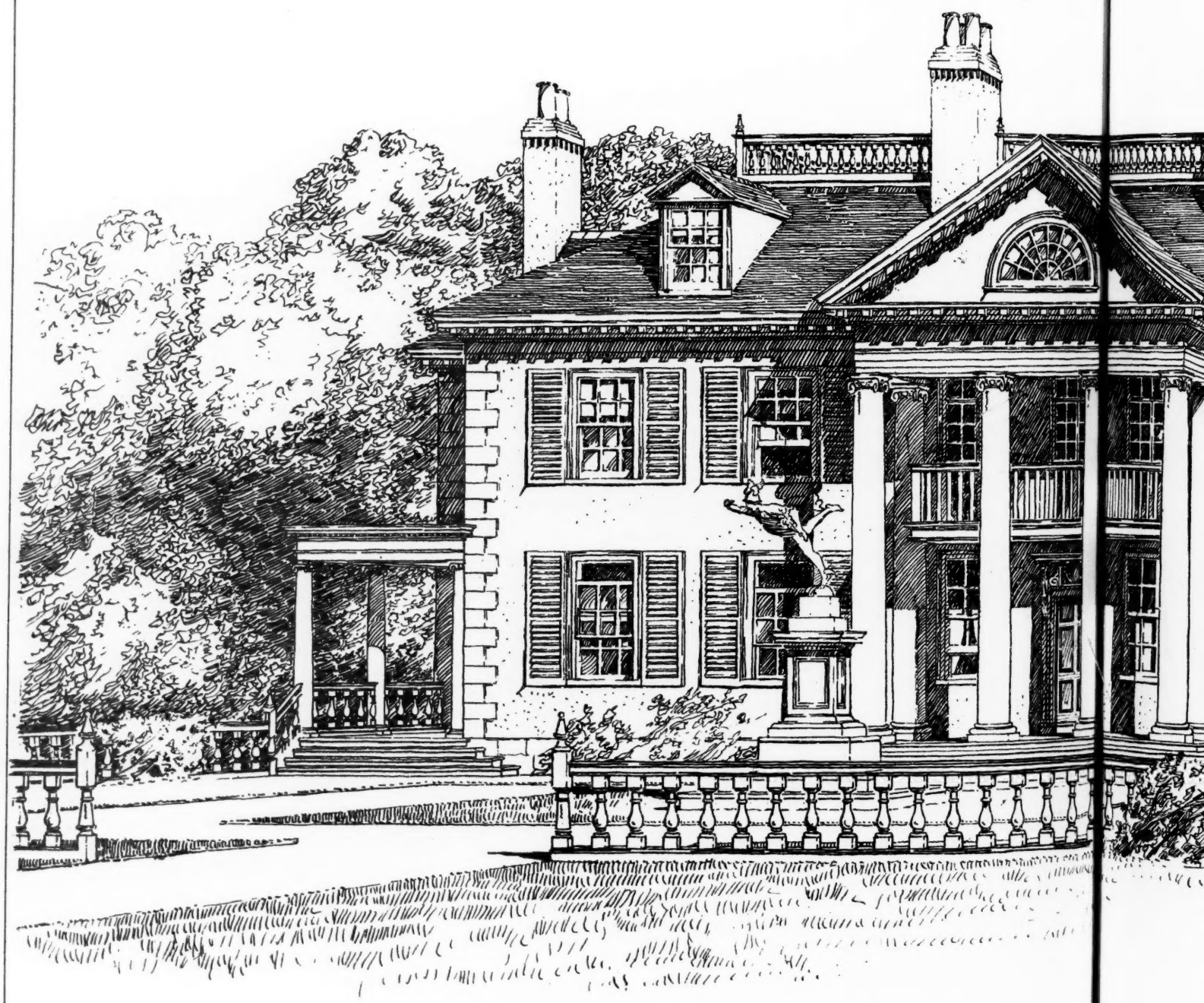
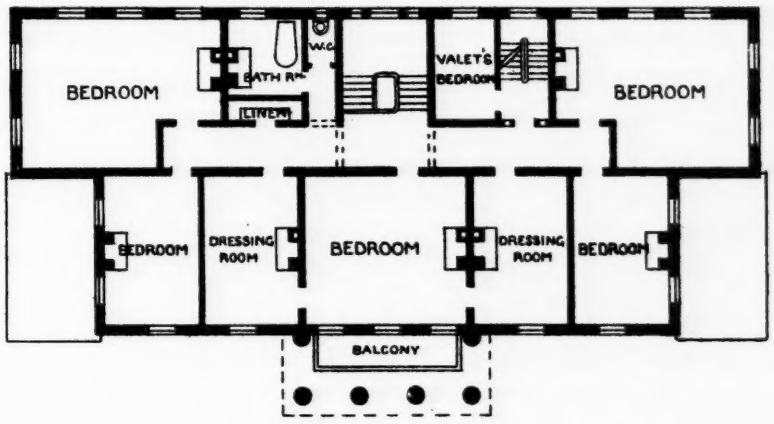


GROUND FLOOR PLAN

SCALE OF 10 0 10 20 30 FEET



DESIGN FOR A HOUSE.—Mr. A. Briggs, F.R.I.



FIRST FLOOR PLAN

SCALE OF 10 0 10 20 30 FEET

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OUSE.—Mr. A. Briggs, F.R.I.B.A., Architect.